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ABSTRACT

This membership meeting focused on higher education reform in the 1990s and the mission of educational institutions in the face of changes in educational philosophy, cultural and demographic changes, and shifts in public policy. It is argued that the ongoing academic revolution will define higher education in the next decade, and that research libraries must be key players as universities rethink the curriculum to address the needs of traditional, non-traditional, and under-represented populations of students, provide more effective undergraduate education, support the expanding role of higher education in national economic well-being, and create a stimulating, nurturing environment for the university community in the 1990s. The following five papers were presented in two general program sessions, each of which began with an introduction by Marilyn Sharrow: (1) "Writing a Script for the Future of Higher Education" (Gordon Davies); (2) "In Praise of Teaching and Research" (William D'Antonio); (3) "Rethinking Curriculum and Teaching Methods in the Humanities" (Phyllis Franklin); (4) "The Impact of Demographic Trends on the Future of Higher Education" (Carol De Vita); and (5) "Institutional Responses to Cultural Diversity" (Carol Cartwright). Transcripts of three townmeeting discussions are also included: (1) Preservation; (2) Telecommunications: The Coalition for Networked Information; and (3) Serials Prices: The Office of Scientific and Academic Publishing. The report of the business meeting includes reports from various groups, and seven appendices include additional reports, 1989 ARL financial statements, a participant list, and lists of officers, directors, committees, and task forces, as well as a list of organizational members of the association. (BBM)

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Minutes of the 116th Meeting

May 9–11, 1990
New Orleans, Louisiana

The Association of Research Libraries

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ASSOCIATION OF RESEARCH LIBRARIES

116TH MEMBERSHIP MEETING

New Orleans, Louisiana
May 9-11, 1990

HIGHER EDUCATION REFORM IN THE 1990s

Martin Runkle, *Presiding*
Marilyn J. Sharrow, *Program Coordinator*

FOREWORD

Higher education is in flux in North America as universities reexamine their purpose in an environment of increasing social and political diversity. Research libraries must prepare for the changes the next decade will bring if they are to play a more strategic role on campus. The 116th ARL Membership Meeting focused on higher education reform in the 1990s and the mission of educational institutions in the face of changes in educational philosophy, social changes--both cultural and demographic, and shifts in public policy.

Changes in educational philosophy. Educational philosophy is debated principally among educators and university administrators, although the Bush Administration, via the National Endowment for the Humanities, has stated its perspective in a report entitled *50 Hours*. In the 1980s, many higher education institutions tackled these questions: What constitutes an undergraduate liberal arts education? Should there be a core curriculum? Should faculty focus more on undergraduate education and on grooming undergraduates for graduate studies? How does one measure the success of higher education?

Changes in society. The complexion of North American society is changing. By the end of this century, for example, the white population in California will be roughly equal in size to California Afro-Americans, Hispanics, and Asian-Americans. The shift in demographics brings cultural diversity to the university as well. While many campuses offer courses on the history and literature of these cultures and nationalities, cultural diversity as a curriculum model is still controversial. At the same time, campuses are adjusting to a new mix of students. Many entering undergraduates are recent immigrants or older students who took time out to work or raise a family. A growing number are part-time students, students with minimal preparatory education, or foreign students with limited English proficiency. As a result, colleges and universities are confronted with the question of how to handle remedial education for both North American-born and foreign-born undergraduates who lack basic English language and analytical skills.

Changes in public policy. If public policy involves the formulation and conduct of programs to serve the larger interests of society, who decides what type of higher education is in the best interest of U.S. and Canadian societies? As we move toward a global economy, how can higher education protect the economic health and competitive positions of the United States and Canada? What alliances should higher education seek with private industry? Elected officials, university administrators, educators, and taxpayers are wrestling with these public policy questions.

The ongoing academic revolution will define higher education in the next decade. Research libraries must be key players as universities rethink the curriculum to address the needs of traditional, non-traditional, and under-represented populations of students, provide more effective undergraduate education, support the expanding role of higher education in national economic well-being, and create a stimulating, nurturing environment for the university community in the 1990s.

Distinguished speakers from a cross-section of disciplines examined changes in higher education and the role research libraries can and should play. **Gordon Davies**, Director of the Council of Higher Education of the State of Virginia, opened the program with an overview of current directions in higher education. **William V. D'Antonio**, Executive Officer of the American Sociological Association, looked specifically at changes in teaching, research, and undergraduate education. **Phyllis Franklin**, Executive Director of the Modern Language Association, focused on some of the reforms currently underway in the humanities. **Carol De Vita**, Director of the 21st Century Project of the Population Reference Bureau, assessed the impact of changing demographic trends on colleges and universities. **Carol Cartwright**, Vice Chancellor for Academic Affairs at the University of California, Davis, related some of the responses of the University of California system to population shifts in that state.

GENERAL PROGRAM SESSION I

INTRODUCTION

Marilyn Sharrow

University Librarian
University of California-Davis

I would like to welcome you all to the first session of our general program, "Higher Education Reform in North America in the 1990s." At the end of his brilliant poem, "Archaic Torso of Apollo," the German poet Rilke challenges his readers with this startling injunction: "You must change your life." Now, I don't know if the poet had in mind the North American system of higher education when he published this prophetic line in 1908, but surely his advice is relevant as we enter the decade of the 1990s, for this is indeed a period of profound re-evaluation and reform. Questioned are not only traditional teaching techniques, but also the content of the core curriculum itself, particularly in the humanities, as our institutions are called upon to include and acknowledge cultural contributions from women and from ethnic minorities who, unfortunately, in the past were either ignored or undervalued.

The changing demographics and increasing diversity of the North American student population will make such changes and accommodations a necessity, and it is our responsibility and opportunity in the research library to assist in the difficult task of transforming changes into improvements. Or, as an old Irish proverb would have it, to make necessity a virtue.

We are fortunate to have with us today five distinguished speakers from various fields who will share with us their insight and considered opinion regarding this ongoing academic reformation.

I would like to take this opportunity to thank Duane Webster for his work and that of the ARL staff and Barbara Robinson, an independent library consultant. They helped plan this program and were the energy and the enthusiasm behind both the theme and the format.

Our first speaker this morning is Gordon K. Davies. Since 1977 Dr. Davies has been Director of the Council of Higher Education, Virginia's planning and coordinating body for higher education. During those years he has been at the center of a storm of activity. Enrollment has increased in the state by more than 50,000 students; more than one billion dollars has been appropriated for capital projects; faculty salaries have more than doubled; more than 85 million dollars has been allocated for instructional equipment; and tuition assistance grants for private college students have more than tripled.

Dr. Davies' degrees, all from Yale University, are in English and the philosophy of religion. Prior to coming to the Council in 1973 as Associate Director, he participated in founding Stockton State College in New Jersey, one of the last public colleges established in this country. As the dean of the college he guided curriculum development in an innovative advising system.

His long-standing commitment to open access to higher education was first demonstrated when, from 1969 to 1971, he directed the Harvard/Yale/Columbia Intensive Summer Studies Program. In that role he helped black students acquire academic enrichment so they could attend some of the nation's best graduate schools, in the process working with almost a hundred traditionally black institutions around the country.

In addition to being an experienced academic, Dr. Davies' career includes several years selling computers for IBM, consulting, and serving in the U.S. Navy on destroyers in the Atlantic. Dr. Davies' topic is "Writing a Script for the Future of Higher Education."

Following Dr. Davies will be Dr. William D'Antonio. He is the executive officer of the American Sociological Association. He received his B.A. from Yale University, his M.A. from the University of Wisconsin and his Ph.D. from Michigan State University. During his distinguished career as a sociology educator, Dr. D'Antonio was a professor and department head at Notre Dame and the University of Connecticut. He has been an editor for several journals,

including *Contemporary Sociology*, and served on numerous councils and committees. Most recently, he is the vice-president of the National Humanities Alliance and Chair of the Executive Committee of the Consortium of Social Science Associations. His publications are in three distinct areas: political sociology, family ethnicity, and religion, with special interests in social backgrounds and family values, family and religion, and authority and decision-making. *Sociology, Human Society*, an introductory text, was written by Dr. D'Antonio and M. & L. DeFleur and has gone through four editions from 1971 to 1984. He will speak to us today on the topic "In Praise of Teaching and Research."

Our final speaker of the morning will be Dr. Phyllis Franklin. Phyllis Franklin was educated at Vassar College, and received an M.A. and a Ph.D. from the University of Miami. She joined the English department at the University of Miami where she taught American literature and women's studies. In the early 1980s she served as a Fellow in Academic Administration at Duke University under the auspices of the American Council on Education.

In 1981 she joined the staff of the Modern Language Association as the Director of English Programs and the Association of Departments of English, and in 1985 she was appointed Executive Director of the Modern Language Association.

She has published in the fields of American literary realism, women's studies, and the history of English studies. Most recently, she has published on issues affecting the profession: curriculum development, part-time development, and the academy and the public. The Women's Caucus for the Modern Languages named her winner of the Florence Howe award for Feminist Criticism in 1974. The University of Miami honored her for "outstanding contributions to women at the University of Miami," and George Washington University awarded her the degree of Doctor of Humane Letters. She edits the *MLA Newsletter* and *Profession*, is the elected chair of the Conference of Secretaries of the American Council of Learned Societies, and represents the MLA on the board of the National Humanities Alliance. The title of Dr. Franklin's remarks is "Rethinking Curriculum and Teaching Methods in the Humanities."

WRITING A SCRIPT FOR THE FUTURE OF HIGHER EDUCATION

Gordon Davies

Director
Virginia Council of Higher Education

Some years ago, engaged in dubious research on behalf of a significant other whose presence within the Beinecke Rare Book Library was not sanctioned by Yale University, I asked to see a Revolutionary War number of the *New York Mercury*.

In response to the librarian's question as we walked into Beinecke's depths, I told her that in the days immediately preceding the execution by hanging of young Nathan Hale, an officer of the Continental Army had been arrested while trying to set New York ablaze. I was pursuing the long-shot that young Nathan had been hanged not for espionage, but for playing with matches.

"Oh, I certainly hope not!" exclaimed the librarian, and we walked along for a while in silence.

"Why does the possibility that Nathan Hale was trying to burn New York bother you?" I finally asked.

"Ever since Caesar burned the library at Alexandria," she replied, "I have not liked incendiaries."

The great danger today is not that priceless and irreplaceable manuscripts will be destroyed by marauding armies under the command of great generals, or even by a recent college graduate with a theatrical bent and a revolutionary fever. These calamities can happen, of course, and a great library did burn, fairly recently, in Bucharest. But a greater danger is that we shall be buried in data, drowned in overwhelming collections of all that has been thought and said by everyone, everywhere, ever, both the best and the worst.

This and many other issues were among those considered by Virginia's Commission on the University of the 21st Century during more than a year of deliberations that concluded in December of 1989. The Commission was appointed in 1988 by then Governor Gerald L. Baliles, who charged it to present to the people of the commonwealth and their elected leaders a vision for higher education in the early years of the next century. "Don't give us a plan," the governor said. "We have lots of planners. Tell us what universities and systems of higher education ought to be like."

Governor Baliles used to tell people that the best way to predict the future was to create it. He appointed two persons from outside Virginia to help us keep a good perspective on ourselves -- to see ourselves as others see us -- and to help us gain a perspective on the nation. The two -- Colin Campbell, former president of Wesleyan University in Connecticut and now president of the Rockefeller Brothers Fund; and Catherine Stimpson, Dean of Graduate Studies at Rutgers University and president of the Modern Language Association -- were enormously helpful. Kate Stimpson, one of this country's eminent literary scholars, described what we were about in a phrase that stuck. We were, she said, "writing a script for the future."

The commission held public meetings as it does normal hearings. It also held invited meetings, and it invited unusual kinds of people because it had an unusual agenda. It invited people like Peggy MacKintosh from Wellesley to talk about her perception of women in higher education. It invited Evelyn Fox Keller, the noted biographer of Barbara McClintock and scientist in the philosophy of science, to talk about gender in the sciences. It invited anthropologists and business leaders. It invited representatives of national media, partly because we wanted them to know what we were doing, and partly because we wanted to know what their perspectives were.

Ted Fisk, the educator of *The New York Times*, came to be with us, and Ted told a story, probably apocryphal but surely true, about Albert Einstein riding on a train. Einstein was there in the car. The conductor came through and said, "Tickets, please." Einstein began looking through his briefcase and couldn't find his ticket. Soon he was on his knees in the compartment passageway, looking through his luggage, at which point the conductor had recognized the great

man, and he said, "Sir, this isn't necessary. If you didn't buy a ticket you can send your money to the railway office, and if you do find your ticket, you can send your ticket to the railway office." He said, "Sir, please, I trust you." And Einstein, by this time very perturbed, looked up and said, "No," he said, "You don't understand. It is no longer a question of whether you trust me. It is a question of where I am going." I thought Ted helped us enormously with that story.

I want to make several observations about the Commission's report[1] and what I take to be its significance. First, while it was written with some passion, it was not the passion of folks who know they are right and others are wrong. This was the work of a citizen commission that knew things ought to change but also knew that it didn't have all the answers. It had very much in mind H.L. Mencken's famous statement that "for every complex problem there is a simple answer, and it is inevitably wrong."

It was the work of the Commission that recognized the strength of American higher education and, in particular the strength of Virginia higher education. Because we are strong, the Commission argued, we can engage in vigorous debate and substantive change. The report contributed to a debate that has been, to date, mainly among academics. I call it the Bennett v. Stanford argument on the curriculum, and I'm reminded in that debate about the senior faculty member who said to her younger colleague during a long faculty meeting, "Of course, everything has been said. It's just that everybody hasn't had a chance to say it."

With good common sense, this commission, primarily consisting of lay-women and -men, saw the right on each side. Of course, it's important to know our national heritage and to understand our roots in western culture. But we cannot know ourselves unless we know others, for we have influenced them and they us. Curriculum has to be infused with a global perspective, recognizing the interconnectedness of the world's different polities, economies, and cultures. But the curriculum also must tell our national story so we can learn to deal with our own plurality, for we are and always have been a multi-cultural, multi-racial, and multi-ethnic people, and we are becoming more so each year.

The curriculum should offer opportunities to explore the fullest possible range of human experience. We have to embrace our own diversity as a nation and our place in a diverse community of nations. These two responsibilities are not to be confused but rather to be held in a dialectical tension. We cannot overcome our national fear of "otherness" in global affairs unless we overcome our local fear of "otherness" in the cities and towns in which we live and, we might add, unless we overcome our personal fear of "otherness" in our most intimate relationships.

Next, it's a report whose critique of higher education is not grounded in nostalgia for the past. "Nostalgia," said St. Augustine, "is the original sin of memory." If I read the histories correctly, there was no golden age during which the undergraduate curriculum was coherent, inclusive, tolerant, and rigorous. Indeed, academic life in the last century seems to have been often nasty and brutish, and the pedagogy to have been based upon rote learning and recitation. An elderly faculty member was once honored at the Virginia Military Institute. After all the nice things were said about him, he crept to the podium and he said, "Things aren't the way they used to be, and they never were," and sat down. That wasn't bad for the Virginia Military Institute.

The Commission called attention to different ways of coming to know, and asked faculty to recognize that the experiences of women and people of color are not adequately represented in either course content or in accepted methods of inquiry. It reminded its readers that students learn at least as much from what we do as from what we say. A colleague of mine told this commission, "I shall tell you a secret. Students often experience a curriculum that is different from the one the faculty thinks it is teaching." Methinks she is right.

The Commission called for sweeping change in areas for which government, university administration, and the faculty are responsible. It understood pretty well who's responsible for what and went to great pains to leave faculty and staff the responsibility to shape the intellectual and spiritual experience of those who pass through the university and those who spend their lives

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[1] Virginia. *Commission on the University of the 21st Century*. Richmond, VA (101 North 14th St., Richmond 23219): The Commission, 1990.

in it. But it insisted that all human beings be treated with care and that none be shortchanged in the name of some abstract objective. To the extent that some persons are ill-treated -- be they students, junior or adjunct faculty, women, persons of color, or some other group -- our systems of incentives are askew and they damage the entire enterprise.

Finally, the Commission recognized the central role of the library in the university. Not a new role, but certainly one that has changed markedly as the volume of publications explode, prices and acquisition costs escalate, and technology transforms our understanding of what information is and how it can be used.

The Commission envisioned a university largely unfettered by the constraints of space and time, in which the nature of formal contact between faculty and students will change so that a large portion of faculty and student time together will be relatively unstructured and informal. A report was prepared at Virginia Tech titled *The Impact of Digital Technology on the Classroom Learning Environment.*[2] It sounds like somebody's master's thesis. It isn't. Inside it is a bold and visionary document. That report predicted that one of the faculty's most important responsibilities in the future may very well be to hold office hours. It went on to say therein lies the problem, because faculty don't know how to hold office hours and they are not rewarded to do so, and we have to change the culture, not just change the schedule. The Commission saw the library at the center of learning relationships: as a source of information and of help in determining what information is available, how to tell wheat from chaff, and how to gain access to the wheat. It went on to talk about probable changes in space planning that follow from the library's role as a critical node in an information network.

All of this ought not to have been an unusual feature of a report on higher education, but, unfortunately, it is. The spate of higher education reform literature bestowed upon us in the last several years has been curiously silent about libraries when, in fact, they are a necessary condition of involvement in learning. Even the report called *Involvement in Learning*[3] said very little about libraries; in fact, I don't remember that it said anything. Maybe it said something, but very little.

The Virginia Commission was not working in a vacuum when it came to discuss libraries. Virginia institutions have been building network capacity among themselves for some time. One university is a member of a network that includes all the major higher education libraries in the Washington area. We have many regional and national networks. We are not as far ahead as some of you are in your states, but we are very definitely moving as quickly as we can. High-density shelving for little-used materials is a prerequisite for all new library construction. While institutions are not yet pooling their little-used materials in a common facility, one university is constructing a separate high-density storage facility.

A committee of librarians has tackled the issue of containing the costs of periodicals, and our attorney general is looking into the legality of resource-sharing techniques, state-wide contracts for commonly-used data bases, and possible consumer action. In fact, I expect to have that opinion from her within the next couple of weeks. Several states have indicated interest in joining with us to seek relief from unfair pricing of periodicals. Change is in the air. The danger is the change talk may be becoming too fashionable. There is a line in a novel, *The Leopard* (*Il Gattopardo*), by Giuseppi di Lampedusa, from the 19th century. It's during the revolution in which a nobleman says to his son as he is accommodating the revolutionary, "You have to understand. Things have to change in order that they can remain the same."

In Washington, preliminary discussions about the reauthorization of the Higher Education Act of 1964 produced a surprising number of parties who agreed that the current Act, meagerly funded except for financial aid and badly conceived there, no longer meets the needs either of the

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[2]University Task Force on The Impact of Digital Technology on the Classroom Environment. *The Impact of Digital Technology on the Classroom Environment,* Virginia Polytechnic Institute and State University, Blacksburg, VA. Jan. 1989.

[3]National Institute of Education. Study Group on the Conditions of Excellence in American Higher Education. *Involvement in learning: realizing the potential of American higher education: final report of the Study Group on the Conditions of Excellence in American Higher Education.* (Washington, DC, National Institute of Education, U.S. Dept. of Education, 1984).

educational community or of the nation itself. There are powerful forces that want to prevent change. They may succeed in doing so this time, but not, I think, forever.

The very notion of accountability is changing. We are not being asked to demonstrate what we had been asked to demonstrate before, which is fiscal accountability. We are being asked to demonstrate the results of the uses to which we put the funds given to us, not just to follow generally accepted accounting practices. Did students learn what we thought they ought to know and be able to do? Did they come to us from all segments of the society and did they persevere and succeed in their studies? Did we really contribute to the economic development of the states and communities in which our campuses are located, as we promised we would? Is the service worth the price? This is a new kind of accountability, which is more demanding, by far, than a financial audit.

The Carnegie Foundation, throwing caution and humility to the wind, has published *Scholarship Reconsidered: Priorities of the Professoriate*.[1] It's a sign of a shift in the prevailing educational hegemony. Among other things, it acknowledges that not all faculty are engaged in research and scholarship, even generously defined. It also suggests that methods of inquiry, ways of coming to know, and values may be influenced by gender, race, and ethnicity. "The New American Scholar" may only have said what is obvious to many of us or what scholars in women's and black studies have known for more than two decades as they have struggled for legitimacy in our colleges and universities, but it's an important event. What we know to be real isn't until it's acknowledged. "The New American Scholar" is a minor refutation of the Cartesian rationalism that shaped our academic institutions and still determines their behavior.

Several years ago I was invited to Chapel Hill to meet with a small group of ARL library directors and a few others to talk about the effect of networking on libraries. A representative of Virginia Tech told how Tech's library was being conceived as part of the university's information system. The effect in that small group was rather chilling, but I suspect the reaction would be very different today.

High-speed data networks have changed our approach to information and to libraries. The traditional basis of measuring a library's greatness by the number of volumes in its stacks is no longer adequate. Any library, no matter how large, that is not linked electronically to other repositories of information, including other libraries, is a dead organism.

The standards of capacity are changing to include not just the number of volumes held, but also megabytes of data accessible and line speeds. The qualifications for membership in this august group itself may change as a result. I suggest these changes not because they are new to you, but because you probably recognize them and others, as well. You understand the potential benefits of advanced data technology and are as quick as the leaders of any other enterprise to apply the technology you can afford.

One major challenge facing libraries during the next several years is how to maintain accepted high levels of service while moving into an electronic environment. The technology for storing, retrieving, and disseminating information is available but hardly ubiquitous. Managing parallel but different information systems will place great strain on the limited resources available to you and your university.

The academic library has developed to make information available to users as quickly, accurately, and efficiently as possible. A person cannot use a library without becoming an active participant in her own learning. It is a remarkably successful institution and will remain so if it adapts to new understandings of information and its use, and can acquire the new technology available.

You are committed to serving the community of scholars, be they students or faculty, seers or neophytes. In the past, your services have been provided primarily to those who came to you. Interlibrary loan began the process of carrying material to the user and electronic networks will extend your capacity to deliver material quickly, accurately, and efficiently. In the future we have

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[1] Boyer, Ernest L., *Scholarship Reconsidered: Priorities of the Professoriate*. Carnegie Foundation for the Advancement of Teaching, 1990.

to find ways to deliver not just information, but the expertness of your staffs, the assistance of the librarian, and, indeed, the learning environment itself, across electronic networks. A second challenge will be to serve as a screen to ensure that these networks that can convey enormous amounts of data do not convey enough to drown us and render us incapable.

This much is certain: Change is coming and it will not be cheap. We are talking about major renovation involving not just library buildings, but whole campuses. We are talking about running parallel systems for the next several decades. We are talking about major investments in technology. We are talking about changes in publishing, changes in copyright law, changes in our understanding of what information is and how it can be owned and how it can be used.

We have to surmount impediments, some of them legal, others financial, and still others habits of the mind and heart, that stand in our way. I cannot assure you that our leaders agree uniformly about what has to be done or that you will agree with them when they do what they eventually do. But I can tell you that we are living in a time when the center will not hold, a most exciting time of enormous possibility.

"Snow falling on Monticello," wrote the poet Robert Haas, "on Mr. Jefferson's little hill, on the age of reason and on the age of sensibility." It is a good time, this time of snow falling on Monticello, a good time fraught with peril, but also with excitement and opportunity. The leadership of our great test libraries rests with you and so, therefore, does the future of scholarship and learning in this nation and, indeed, the world.

DISCUSSION

UNIDENTIFIED SPEAKER: I have a question, not having seen the full report, but just the summary. I thought it was interesting that while there was a brief paragraph about the importance of libraries, when it came to the recommendations, there was nothing with regard to libraries, and I wondered if you could comment on that?

MR. DAVIES: I can only say that I don't like that summary. I wish you would look at the report. There are more things in the report itself. I really don't want to defend that document. There is more. This commission talked more about libraries than what is represented in that executive summary.

UNIDENTIFIED SPEAKER: Could you give us some ideas of the things that they said? This sumary talks about the recommendations that relate to funding rewards for faculty, new buildings, and so forth.

MR. DAVIES: The assumption in this commission's work was that the status quo was inadequate in every part of the academy and its financial recommendations cut cross the entire university. They spoke specifically of the need to redesign facilities, renovate old facilities, build new and different kinds of facilities, and reconceive the very way we design campuses. Physically, we design separate places where you sleep, where you eat, where you go to class, where the faculty have their offices, where you go and play pool and drink beer, as if every one of those things was a separate activity and your learning was unrelated to the rest of your life. The Commission called for a rethinking of that kind of separatism within the academy. It called for a great deal of money to be spent on electronic networking and clearly included the library there. It called for money to give people the leisure -- I mean leisure in a productive way -- to think about what it is they are doing and reconceive it. It wanted faculty and staff to be able to redesign their own behavior. The very way we conceive of the library and its place in the university is a key part of what we have to reconceive. So there is more in the report.

UNIDENTIFIED SPEAKER: What has been the response to the report?

MR. DAVIES: There have been two responses. The response from faculty actually has been very, very positive. We realized early in the work of this report that this kind of change, the change that interests us, is not change that comes from the top down. This is change that happens in the faculty. Every newsletter and every document that came out of the Commission was mailed to 13,000 faculty across Virginia. We have found faculty responding unevenly, but some departments and some entire universities have been very active in picking up on a lot of these things. Others just wished it would go away.

There is this wonderful story about a university president who proposed curriculum reform and told a colleague, "I took a terrible beating. The president of my faculty senate stood up and said, 'Mr. President, we'd better take a wait-and-see attitude on this.'" The other president said, "You came out very well. I proposed the same thing, and at the end of a long debate the president of the faculty senate stood up and said, 'Mr. President, it's much too early to take a wait-and-see attitude.'"

Actually, it hasn't been like that. There have been universities that are relatively uninterested. We accept that. The way we are doing assessment of student learning in Virginia is to say to universities, "You decide what you think students ought to know and be able to do at the undergraduate level, and you design ways through which you can tell us whether they are." So we are finding across universities some departments are very active and others are not, and we are finding in Virginia, public and private, a fair amount of interest.

The most striking thing to me is the number of states to which I and my colleagues have been invited since the Commission reported last November. This commission said enrollment

growth was not the major issue. It said we can warehouse people anywhere. We did that after the war. We did that in the 1960s. The important question is what people ought to know and be able to do. What about the curriculum? In many other states, the discussion seems to have turned into a battle about demographics. This report seems to have attracted some interest because it is indeed about the curriculum.

UNIDENTIFIED SPEAKER: Is there anything you can report -- a new recognition system, a new reward system -- that is coming about as a result of this?

MR. DAVIES: There are a couple of things in Virginia. Governor Wilder, in one of his first communications with the presidents, said, "I'm not going to have a lot of money for the next four years but that's not a reason why things have to stop. I think we can still make progress and I think we can do some things, and among the things I want to do are things that are in this commission's report. I want you to come back and tell me that all faculty, including tenured faculty, are being evaluated and have professional objectives for the coming year, and that teaching is indeed a primary determinant of salary increases."

At the state level we are going to do away with the budget system that we use, which is largely enrollment driven. We are part of the problem, too. We pay institutions more money to get bigger than we do to get better. We all know that that's bad, but nobody knows how not to do it. In fact, most universities like it.

We jumped off the cliff and we are busy sewing ourselves a parachute. We said we have got to change our space planning guidelines and our operating budget guidelines to reflect the kind of behavior we want, because we encourage the wrong behavior by the way we behave in our funding. So we have taken on a major responsibility here, too.

UNIDENTIFIED SPEAKER: Don Hirsch, who is a faculty member in your state, has put forth the idea of a core of knowledge that he indicates a person should have (E.D. Hirsch, *Cultural Literacy*, 1987). What effect has Professor Hirsch's work had on the Commission, or is it well-regarded?

MR. DAVIES: Don's work is well-regarded and Don is well-regarded in Virginia. I will commit the intentional fallacy and say that Don's work, I'm convinced, springs from a profoundly democratic concern as opposed to some of the other reform literature, which is not at all democratic in its intent. I would not say, however, that this commission bought all of it, or that when you read the report you will find it echoing Don Hirsch, but he added something to the conversations.

MS. KAUFMAN: I'm from the state of Tennessee, which has been a leader in assessment, leading the country to its illogical conclusions.

MR. DAVIES: To its illogical conclusions, did you say?

MS. KAUFMAN: Yes. I'm curious as to how the Commission dealt with the balance of assessment and did it take into account some of the things that are happening and build in any kind of protection?

MR. DAVIES: What kind of protection do you mean?

MS. KAUFMAN: Performance funding in Tennessee is based upon improvement from year to year in various assessment measures, which means if you have achieved a measure of ninety-nine percent one year you have to better that in the next year. I'm just curious as to how the Commission handled assessment and its relationship to the funding issue.

MR. DAVIES: That's like the old psychology story about the person who stood in front of the mirror and said every morning, "Every day in every way I'm getting better and better," until he went completely insane.

The Commission discussed assessment, but I think, more importantly, the Commonwealth has. This report didn't just spring from the head of Zeus. A lot of things have been going on in Virginia, and the way we have designed our assessment program makes curriculum change the primary objective, not accountability. We intentionally designed a program that makes it impossible to print a list in the newspaper of performance in descending order, because every university assesses itself in its own way.

And, indeed, in institutions like James Madison University and William and Mary which have taken that most to heart, they have found that from department to department and discipline to discipline, there are different ways that are most appropriate to assess students. A very small department at James Madison might have picked up the Alverno model of assessment, which is a constant monitoring and automatic intervention to keep people on course, but the large business program is more comfortable with a standardized examination. The English and philosophy programs at William and Mary, on the other hand, are using sample portfolios, and the University of Virginia has been deeply involved in doing a fascinating longitudinal entry-exit interview of students.

IN PRAISE OF TEACHING AND RESEARCH

William D'Antonio

Executive Director
American Sociological Association

As I thought about what I would say this morning and reflected on what might be helpful or of interest, I decided that I would take a very personal approach to the topic of teaching and research. As I thought about my life as student, teacher, and researcher, I realized I have lived through a period of major dramatic changes. They have brought us to the present time of difficulty, challenge, and opportunity, to which I will speak from a very personal approach.

My concerns with teaching have not been simply with personal classroom teaching. I've been concerned, also, with improving the quality of teaching within the departments in which I have taught, and within the college at the University of Connecticut. For example, the Arts and Letters College passed a requirement that all liberal arts students had to have at least one quarter of all courses taken in small sections requiring extensive and intensive writing or quantitative work. That requirement seems to be very minimal in retrospect, but to get it through the college was a major achievement.

I have also been very active in the Teaching Services Program of the American Sociological Association as a committee member since 1975, and now as Executive Officer. I won't be able to talk much about that now, but perhaps in the discussion session you may want to ask more about what the American Sociological Association has done to improve the quality of teaching sociology.

And, finally and most recently, I have worked as a member of Sigma Xi's advisory committee on undergraduate education. Sigma Xi is the National Research Honorary Society, and for it to decide that there is a problem with undergraduate teaching provides us with a structural mechanism to make a break-through and some progress toward reform of undergraduate education.

Now, in praising teaching, I don't only think of teaching as that which takes place in the classroom, but it's also that which takes place in our preparation for the classroom, in talking with our students, in encouraging students to do research papers, in talking with colleagues about the curriculum, and in working with committees of the college to make changes that might enhance teaching. All of these are part of teaching.

I found out how important that was when I was giving testimony before the state legislature of Connecticut in my role as president of the AAUP Bargaining Unit. A senator asked, "How many hours a week do you teach?" And I decided that the answer to that was not six or nine, but thirty-five, forty, or forty-five, depending upon what I did also by way of research and administration. We confuse the public and demean ourselves when we say we only teach six or nine hours.

In linking research to teaching, I want to mention three ways in which research is relevant to teaching in this context. The first is research on the teaching process itself. We have finally begun to do some significant work on the teaching process (the differences between large and small classes, differences in the impact on students of the formal lecture approach versus the discussion or the personalized system of instruction, and the impact of different approaches in the classroom on gender). A very important paper by the sociology program director at the National Science Foundation, Phyllis Moen, on "Women as a National Resource" shows the significance of that kind of research. We are only beginning to do that research, but it's a crucial kind of research. I think too often we forget that it is basic research which is the life blood of most undergraduate courses. Too often also the faculty who devote most of their time to teaching tend to become alienated from the people who do the basic research. But over any ten- or twenty-year period of time, it is basic research that provides the knowledge that gives new life to the classroom teacher.

Finally, there is research that we teach our students, helping them to learn research methods and encouraging them in some way to do research. My own model of the classroom is that, from the very first course, students ought to be required to do some research, even if it's no more than going to the library and learning to systematically complete a project that requires more than just reading a text.

Those are three aspects of research that need to be woven into the teaching process. All too often they are seen somehow as separate or not related at all. The more we praise these three facets of research, the more likely that we will be bringing the university library into closer contact with the classroom, a setting that I recall very well from my own undergraduate years.

Let me begin by putting my talk into a larger perspective for you, and to help set the mood let me tell a story that I heard recently in Washington about a young woman named Sue who graduated from one of the area high schools and went to California to go to college. Her parents didn't hear very much from her until about Thanksgiving, when they received the following letter:

> Dear Mom and Dad,
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> Tom and I have found a very nice little apartment. Well, it's not really an apartment. It's just one room, but it's clean. No rats or mice. Not even many cockroaches. Tom is very optimistic about getting a job. He's worked at MacDonald's before and even pumped gas one summer, so we are pretty optimistic on his getting a job quickly. As for me, the doctor says my pregnancy is coming along fine and he even says I can probably go back to school next year after the baby is born. Well, of course, we won't be able to get home for Christmas. I'll miss you, and miss the Christmas tree. But there is a phone right down the street. I can see it from the window of our apartment. I'll call you from there. Don't worry about us. Everything is going to be fine. Love, Sue.
>
> P.S. There is no Tom and I'm not pregnant but I think I'm going to get a D in my sociology course. I thought it would help to put things into a larger perspective.

So, a D isn't always a bad grade. It's a matter of perspective. That story is probably apocryphal, but the following one is true: I went back to Notre Dame for the installation of the new president, Father Ed Malloy, and after the dinner the night before the installation I went to the inn on campus to call my host to pick me up. As I was walking away from the telephone, someone reached out and grabbed me by the shoulder. "Dr. D'Antonio!" he said. I turned around to see this huge hulk of a guy in a tuxedo, obviously a former football player, who came to shake my hand and said, "Don't you remember me? I had you for Sociology 107 back in 1963-64." I said, "How are you?" He said, "Fine. I want you to meet my wife."

His wife was with a gathering of other colleagues, all of whom were in tuxedoes. I figured they were in the president's class. He said, "Josephine, I want you to meet Dr. D'Antonio. He gave me a D in sociology." Everyone roared with laughter. I was stumped for a second trying to think what to say. I said, "Ray, it's good of you to introduce me to your wife after I gave you a D." He said, "You saved my life. I thought I was going to flunk out. You allowed me to rewrite that term paper and saved my life." So, naturally I had to say, "What do you do now?" He said that he was president of X corporation, the world's largest producer of Y product, and then the punch line came. He said, "Did you see that new football field house on campus? I was one of the three people who just gave that to Notre Dame." I like to think that this example shows how sociology serves as both a liberal and practical discipline.

Actually the perspective of this talk is the academic arena in which you work, so that in praising teaching and research I want to place the colleges and universities at which you labor in the context of those that help prepare young people for doctoral programs in the sciences, humanities, and engineering. At the same time I'm aware that preparing undergraduate students to be Ph.D.s is not the major role of your universities. Rather, that role has been to prepare young people for the role of citizen in an increasingly complex and interdependent world, and, further, to help prepare them for occupations in business, government, and nonprofit associations. Occasionally, I suppose, a few may have been motivated to become part of the world of the

library. Unfortunately, of course, we have a great need right now for more Ph.D.s in all disciplines, and we do not seem, as yet, to have learned how to use the large research university as an appropriate source to recruit them. I will come back to that point later when I talk about Sigma Xi's study and what it found.

The data suggest to me that, all too often, too many of the graduates of our large research-oriented universities are not well-prepared for any of the roles that they are to take in the society.

Let me reflect now for a bit on how I came into teaching. I grew up in New Haven, Connecticut, and I went to the public schools. I was taught by the secular nuns, those dedicated Protestant women who worked very hard to help assimilate that generation's ethnic groups of Italians, Irish, Poles, and Jews into American society. It's important as you think about the problems in contemporary education to reflect back on the kind of teaching that went on in the public school, certainly in the north before World War II.

I attended Yale, and I must say that my Yale experiences recall much the same kind of dedication to undergraduate teaching. So my own reflections are that teaching was a very positive experience in my life. Still, as I was about to graduate from college in 1948, I didn't know what to do with myself. I wanted to go on in education in some way. I went to the placement bureau where I learned that there was such a thing as teacher placement. I inquired into what that meant and was told there were many prep schools throughout New England that were looking for young college graduates every spring. I, however, was graduating mid-year. There was not much likelihood of any teaching jobs opening up. Anyway, I wasn't sure what I could teach. As the woman in charge of the placement bureau looked at my resume, she decided I could probably teach Spanish, and perhaps Latin American history.

I went home and spent part of the Christmas vacation working on my senior thesis -- at that time you spent half of your vacation in the library writing your senior thesis because the semester did not end until January. This may be one change in the academic world that has led to a significant loss of real intellectual activity. One day I received a phone call from the placement office. It seemed that a Spanish teacher at a place called Loomis School in Windsor, Connecticut had suffered a breakdown and was not able to continue.

The long and short of it is, I went there for an interview. I had never been on a prep school campus. The headmaster was a Unitarian and I think rather intrigued about having someone with my religio-ethnic background. Besides, it didn't look like I would suffer a breakdown myself, so I was hired on the spot.

I thought I would give it a try for a semester or two, and I stayed for five and a half years. And what I learned, of course, was the importance given to teaching in the New England prep school. I have always thought that my beginning career as a teacher was in a most ideal setting. This was not a school like the one at which Robin Williams taught in the movie *Dead Poet's Society*, I assure you. I found consistency in the expectations that everyone had about teaching: the families that paid the fees; the students themselves; the alumni; and my colleagues on the faculty. Everyone thought teaching was important. Teaching was what you got paid for. You were not paid much, but you were paid to teach. Everyone thought it was important; everyone supported it. The structure supported it; the norms supported it. It was for me a very important experience in the sense that, as I look back, and as I interacted with colleagues throughout my teaching career at the college-university level, I realize that I had a great advantage. I began my teaching career in a teaching setting -- not where research was the prime activity but where teaching was the prime activity. As a result, when I left Loomis to begin my doctoral studies in sociology, I ran into difficulty as I discovered that it was now research and not teaching that counted.

I won't go into how I got into sociology except to say that it was through a man named Loomis who was related to the Loomis School family. What I found most important was the way that I was trained in graduate school not to be a teacher but to be a research scholar, and I have spent the rest of my life since that time trying to find ways to balance my interest in teaching with my interest in research. It has been an exciting, usually tension-filled time. So much for background.

Within this same time period a number of things happened that are a major cause of today's problems. In January 1989, Sigma Xi, the National Research Honorary Society, sponsored a

conference at Wingspread that focused on the crisis of undergraduate education in the sciences. The Sigma Xi report on undergraduate education[2] resulting from that conference began with the observation that before World War II the approach to undergraduate teaching was pretty similar whether one went to Harvard or Michigan State or Oberlin or Louisiana State. That is, teaching was the primary activity of faculty everywhere. Classes were generally small in size, especially the introductory classes. Writing was the order of the day, including the ten-minute quiz, essay exams, and term papers. Professors typically taught four courses a semester. Several things have happened to alter the nature of teaching in that kind of setting over the past fifty years.

First, of course, came the post-war GI boom that sent enrollments soaring from about half a million to several million. Second was the establishment of the National Science Foundation (NSF) in 1950, and with it the dramatic growth of research funds in the natural sciences, math and engineering, and, to a lesser extent, in the social sciences. Then in 1957 the Soviets launched Sputnik, spurring the United States to even greater efforts to recruit bright young students into science, math, and engineering. The result was that in 1969 we landed on the moon.

The baby boom began in 1948, and its impact was felt first on primary schools, then on secondary, and finally in the 1960s on colleges and universities. The baby boom is generally considered by demographers to have begun in 1948 and to run its course by 1964, meaning that its impact at the college level ended around 1981 or 1982.

The establishment of the National Endowment for the Arts and the National Endowment for the Humanities in 1965 provided funding for research in the arts and humanities, and while those monies don't compare at all with NSF monies, they certainly did stimulate, to some degree, the research activity on campus for those disciplines. On top of all that came the money from the other Ns in Washington: National Institutes of Health, which now provide about 8 billion dollars annually for research; National Institute of Mental Health; National Center for Education Statistics, and so forth.

In the half century between 1940 and 1990, higher education enrollments grew from half a million to almost thirteen million. While college and university faculties have also grown, the idea that research is a major component of the education process has greatly affected the teaching process and the way decision-makers think about teaching.

The decision to cut back on classroom teaching hours and set aside explicit hours for research for the faculty, at large, during the academic year, especially at so-called research universities, began on a broad scale in the 1950s. I can recall very well when the Michigan State faculty learned that Ann Arbor's faculty were going to a three course per semester schedule while Michigan State's faculty still had to teach twelve hours. However, within a decade after Sputnik, most, if not all, Ph.D.-granting universities had reduced classroom teaching to three courses, and by the time I moved to the University of Connecticut in 1971, it was down to two courses.

In the past nineteen years I have been on site visits to many small state colleges and state universities, and even to some private colleges which had only MA programs, or no graduate programs at all. They had in common new deans and department heads coming out of the research universities determined to push the teaching faculty to do research and to publish, in reward for which their class teaching responsibilities would be reduced. Now, I'm not quarrelling with the idea that administration must be concerned about finding ways to keep faculty alive intellectually; research may be one way to do it. My concern is with the way research and publications have been supported at the expense of teaching. The recent report the Carnegie Foundation produced details the negative impact of research on the teaching enterprise, even at two-year colleges.

Thus, even though faculty size grew almost as dramatically as student body size, the consequences for teaching were very negative. To accommodate student growth and research growth, administrations opted for the large lecture class, across almost all departments. I know, for I even fell victim to that during my years as a department chair at the University of Notre Dame.

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[2] *An Exploration of the Nature and Quality of Undergraduate Education in Science, Mathematics and Engineering: A Report of the National Advisory Group of Sigma XI, The Scientific Research Society*, Washington: Sigma Xi Fraternity, 1989.

As class size grew, teaching became downgraded, devalued. There is no other way of saying it.

With large classes came multiple choice tests as the way to grade students. Essay exams were dropped, as were term papers, the ten-minute quiz, and other types of writing experiences without which young people simply do not become literate. I don't want to say that the large lecture doesn't have a place. Two of the greatest courses I had at Yale were lecture classes: one on logic and the other on sociology; and our distinguished President, George Bush, mentioned those as two of his most memorable courses. But we did not have multiple choice questions as a means of grading, and we spent many hours in the library reading.

The impersonal lecture for the freshmen and sophomore courses became the method of disbursing information to mass audiences. A standard text has replaced library reading in these freshman and sophomore courses. It is ironic that it has taken such a considerable amount of time before some research has begun to expose the sterility of this approach to education. Within sociology we have a book, *Passing on sociology*, which systemizes our current knowledge about the dilemmas and the disadvantages of this large, formal, sterile lecture approach.[3]

At the meeting in New York recently of the American Council of Learned Societies, the president-elect of Middlebury College lamented the fact that the greatest shortcoming of today's college students is their inability to write well. Why are we surprised? When I first went to the University of Connecticut, I discovered that students in my junior level courses were shocked they would be "forced" to do an essay exam; they claimed this was the first time they had written one, and they were juniors!

The problem with large classes is recognized as critical today even at prestigious universities like California at Berkeley. In a special seminar last week in Washington, Michael Heyman, the outgoing Chancellor of California at Berkeley, said that Berkeley is at a great disadvantage because in the first two years it must use these large classes to teach the huge numbers of students, and he acknowledged that they produce a certain level of impersonality that is really not desirable for freshmen and sophomores, but he can't find any way out because the student to faculty ratio there is so great.

In an effort to make inroads at Berkeley, some sixty senior faculty currently teach special courses for freshmen and sophomores with enrollments limited to fifteen students each. That means that each of these courses has a maximum of fifteen students so that there are nine hundred students at Berkeley who benefit from these small seminars. Well, that's a small beginning, but among the thousands and thousands of students there it doesn't do very much. I suppose in one sense the Berkeley students are saved because they interact among themselves, and they are a bright group of students, about as elite as you would find at any of the Ivy League colleges.

But as a result of the changes that have taken place in academe in the past forty to fifty years, we have the anomalous situation that the major Ph.D.-granting universities, with their reputations as research centers, have created. They have, intentionally or not, undervalued undergraduate education to such a degree that not only do they not produce their fair share of doctoral candidates, but the evidence mounts that they are not doing a good job of educating the students in general about the nature of science, math, or social science, and their importance to society. The data suggest that the very format of large classes in impersonal settings alienates the teachers and leads them to question the value of teaching as an intellectual enterprise. This is one of the major findings in the Sigma Xi report.

One of the most disturbing aspects of this decline in the importance of teaching has been the hiring of more and more part-time teachers to do more and more of the undergraduate teaching. When I arrived at the University of Connecticut in 1971, between ten percent and fifteen percent of the courses were taught by part-time teachers. When I left in 1982, that figure was up to thirty-five percent. At some colleges it's up to fifty percent.

Even at the prestigious universities like Yale and Berkeley, the presidents confessed that they needed to find ways to encourage faculty to focus more on undergraduate student education

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[3] Goldsmith, Charles A. and Everett K. Wilson, *Passing on sociology: the teaching of a discipline*. Belmont, CA: Wadsworth Pub. Co, c1980.

needs rather than on their own research. While admitting also that the reward structure is focused on research and publications and not on teaching, they insisted that they needed to find ways to encourage faculty to take more interest in undergraduate education. They also acknowledged that it was increasingly difficult to do so, at least with the most active research scholars, since they not only reap the great rewards, but they are much more discipline-oriented, and much less inclined to develop long-term loyalty to a particular university.

By allowing large classes to become the norm and using more and more graduate students and part-time instructors, we have misled the public into thinking that we can provide quality education on the cheap. So they complain about the fact that their children can't write, but they don't know what it really costs to produce a quality education. Overall, the quality of education offered in U.S. colleges and universities may well be the best in the world -- certainly at the graduate level it is -- and we have evidence of that by the way the rest of the world would like to come here to study at our universities.

Among the findings of the Sigma Xi conference that are most relevant to our concerns here this morning, I would mention the following: While professors like to teach, relatively few scientists can devote significant time to teaching without "accepting significant psychological and monetary penalties. Undergraduate education is trapped in an infrastructure that rewards those who devote their resources to research and denies those same rewards to those that devote a significant portion of their resources to fulfilling the mission of undergraduate programs."

Second, entry level courses are inaccessible or, if accessible, unrewarding to a large proportion of first and second year students. Third, "large classes impose student to faculty ratios that often make the faculty inaccessible to all but a few students, and at best, students view the human environment as impersonal." Finally, the conference group kept coming back to the reality that teachers in the primary and secondary schools need much better preparation, and society needs teachers of much higher quality to be able to carry out their teaching responsibility in an effective manner. Functional illiteracy does not suddenly begin in college. It has its origins in the educational system, in kindergarten through twelfth grade, as well as in the conditions of life of modern society.

The Sigma Xi report goes on to examine in some detail the problems in kindergarten through twelfth grade, especially in math, physics, and chemistry. I don't have the time to detail them here, but they are not unlike the problems that we feel we face in the social sciences. It happens that one study in the social sciences shows that forty percent of all teachers that teach the social sciences in one of our states are selected, first, to be athletic coaches, and then the school looks around to see where to put them. They don't put them in physics, or even in English, they put them in the social studies programs.

We are beginning to discover the significance of what we have been doing. We don't have those secular nuns teaching anymore, but we do have a number of programs I can at least mention so we can discuss them later. One is the Project 2061 by the American Association for the Advancement of Science. The program was given the title 2061 because that's the date of the next coming of Halley's comet and some people think it may take that long to restructure kindergarten through twelfth grade. Copies of their reports, which involve all of the physical or natural sciences, math, engineering, and the social sciences, are available from the American Association for the Advancement of Science in Washington.

At the same time, the Consortium of Social Science Associations in Washington has been working with the National Council for the Social Studies. Our concerns are to work with them and with teachers interested in bringing about a variety of changes within the kindergarten through twelfth grade years. We are most concerned about developing much more rigorous social science programs, rather than social studies courses, and introducing research methods into the high school years. If we are successful, one outcome will be that students going into college freshman courses may be much more sophisticated and will probably be looking to the library more because they will be required to do much more rigorous research work, even in their first two years.

There are two studies that I want to mention very briefly here relating to the faculty and their attitudes toward research and teaching. I briefly mentioned the most recent Boyer report

which was reported in the *Chronicle* two weeks ago.[4] There was a study ten years before that done by Everett Ladd of the University of Connecticut on research and teaching. Ladd's paper entitled "The Work Experience of American College Professors: Some Data and an Argument," has been supported again by Boyer's more recent report.

In his study, Ladd not only found that the faculty put in many more hours for teaching than they did for research and scholarly writing, but he found that regardless of where they teach, teaching is their personal preference. This is exactly what Boyer found when he analyzed the data by two-year colleges, four-year colleges, and research universities. Since at least the 1950s and the 1960s what we have been doing is creating impossible situations. Boyer found that while seventy-one percent of the faculty would prefer teaching to research, most of them recognize that they couldn't get tenure without doing research. So we put them into a bind whereby they acknowledge that their teaching is much less effective than it might be and that it is compromised by the need to publish the type of research that most catches the eye of higher administration in universities.

Now, since the 1950s and 1960s, we have trained our graduate students to do research and not to worry about teaching. I must say I was greatly dismayed when I went to the dean at the University of Connecticut in 1972 to announce that I was about to do away with a large introductory section of sociology and intended to create twenty-one small sections, and I wanted to train graduate students to help teach some of those sections. The dean told me that my job was to prepare those people to finish their dissertations as quickly as possible and let the schools that hired them worry about their teaching. I reject that approach and I think it's one of the fundamental problems that we produce for graduate students: they are going to get hired to teach, but they have been trained to do research.

I have also questioned the policy whereby we restrict access to the classroom by colleagues who carry out what I will call important peer reviews. If we are going ever to find ways to evaluate teaching besides using student evaluations, we must develop peer review systems that do not threaten colleagues, but are seen as ways of helping to improve the classroom situation. Some small liberal arts colleges have developed that to a high art. Incidentally, one of the other findings of the Sigma Xi conference is that the fifty leading liberal arts colleges in the U.S. produce a disproportionate number and percentage of graduate students in all disciplines, with Reed College leading the group. So, if we want to look at the model of learning that has been successful, we can find it in our small liberal arts colleges.

With class sizes that permit it, we should teach our courses so that they involve students actively in the learning process. That means some kind of scholarly research, a term paper that involves library work and/or, in the social sciences, some use of methods like participant observation, family histories, and use of local records. Thus, the way to praise research is to foster it in the classroom as an essential part of the learning experience. It's a lot of work, but as I look back, it remains one of the most rewarding aspects of my own teaching career, and former students have told me it was most rewarding for them. One, at least, was saved by the fact that he was able to rewrite his paper.

Most academics are not privileged to teach in colleges like Oberlin and Reed. They may not produce large numbers of the next generation of Ph.D. candidates, but they will produce some, and the good news is that there is going to be a large market out there for those who would replace us in this cherished role. At least the Bowen-Sosa report, "Prospects for Faculty in the Arts and Sciences: A Study of Factors Affecting Demand and Supply, 1987-2012," suggests that the job prospects are bright, indeed.[5] If I understand the statistics correctly, they expect within the next decade, or so, there will be one job available for every .7 eligible Ph.D. candidate. That produces a very nice market for young Ph.D.s, but what it means is that it will produce a very critical

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[4]Mooney, Carolyn J., "Higher Education Conferees Applaud Carnegie Plan to Broaden Definition of Faculty Scholarship," *Chronicle of Higher Education*, v.XXXVI, n.30 (April 11, 1990) p.1.

[5]Bowen, William G. and Julie Ann Sosa, *Prospects for faculty in the arts and sciences: a study of factors affecting demand and supply, 1987 to 2012*. Princeton: Princeton University Press, c1989.

situation which may again cause young Ph.D.s to bargain with universities to reduce their teaching if, in fact, their teaching will not be rewarded. I happen to know this personally. One of my daughters is just getting her doctorate, and she turned down a teaching position at a very fine liberal arts college because, she told me, the teaching load is too heavy. I said, "Well, Carla, what are they expecting of you next year?" She said, "Two courses a semester, Dad." Her heart is in research because that's where the rewards are.

The challenge to teachers may well be, despite often large classes, to foster much more scholarly research among their students, as they do at Reed College. James Powell, president of Reed College, says it succinctly: "Each senior at Reed, not just a selected few, is required to complete an honor's thesis, thereby providing students with an opportunity to work closely with faculty, often as junior partners on significant research projects. In fact, over the last decade, nearly one-third of the papers published by Reed science faculty have listed students as co-authors. This brings the weak students up to a minimum level while allowing the top students to rise as far as they are able. All students probably do better than they otherwise would have. I wonder if other schools might not benefit from this kind of requirement."

If I praise teaching and research, it is with the awareness that the effort to do them both well requires a major reordering of priorities on our part. There is no way around the fact that we need to revamp class size and the number of classes taught per semester per faculty member if we want to see a significant improvement in writing and quantitative skills.

We need to convince ourselves as part of the professoriate and administration that teaching deserves rewards equal to those of research, and we need to convince the public to support primary and secondary school teaching to the point that it will attract a much larger share of the best and brightest young people. If we aren't willing to make the reforms needed and to pay the price, all the rhetoric in the world won't really make that much difference. If we do bring about the reforms, the result should be a much higher percentage of literate students with the capacity for critical independent thought which is the heart of a liberal education. I personally have found it rewarding in my own life.

DISCUSSION

UNIDENTIFIED SPEAKER: In what you have said there is a kind of underlying assumption that people get doctorates in order to teach in universities and somehow, because of pressures and rewards, are deflected into having to do a lot more research than they would like. In one of your studies seventy-eight percent of faculty said they prefer to teach. That assumes that twenty-two percent didn't. It seems as though there are a lot of people who get doctorates in order to do research and the university happens to be a good and comfortable place to do that research, so how should we structure universities or society to accommodate people who really do want to do research?

MR. D'ANTONIO: I would have to say that, right now, the major research universities are structured in favor of research. They make every facility available to those who would prepare proposals to buy off time, and to involve their graduate students as researchers. The research university is skewed to support research, and even the small colleges that I referred to are geared so that the dean will buy off your time if you are doing research that will get published in some kind of journal.

Indeed, I would be willing to tell you the names of some journals that ought to be thrown out of your libraries because the only purpose they serve is helping some faculty to survive. I'm not going to show you the names of my journals unless my colleagues in other disciplines will tell you the names of their useless journals. There are journals from which nothing is ever cited because nothing in them is worth citing except on somebody's vita to impress the dean.

MS. TAYLOR: It seems to me that in all professions, when you try to make a major change in the reward system or in the system of professional development, you fight one factor that is ingrained in a lot of us, and that is this attitude that says, by God, I had to do it when I was struggling to get where I am and so should they. Lots of studies we read tell us that we have an aging faculty with tremendous numbers of faculty members out there who are tenured and relatively senior and many of them find it very hard to think as you do. They are really quite taken aback by the prospect that there might be major changes of the kind you describe. Have you thought of ways in which one might begin making an impact in spite of that fact?

MR. D'ANTONIO: For one thing, we should encourage more early, and sometimes forced, retirements. One of the things that administrators on most campuses fear to do is to touch those faculty who died ten years ago and are still teaching. I know that because I suggested clearing a couple in my own department and the administration wouldn't touch it, partly because they were afraid of a court case and partly because there is so little good, systematic evidence of poor classroom performance. Yet, there are faculty who have stopped publishing, and who drive students away from the discipline. I've suggested that we not even assign them to teach because they are a negative force. So we have to face up to that, and one option we have is to encourage early retirement. Many of our colleagues, of course, are now taking advantage of the opportunity to stay on until they reach age seventy; if we don't have the courage to get them out of the department, we are not serving the students' interests.

The other side of this is just as damning. Unless we develop courses to help prepare graduate students to teach and to get them to believe that teaching is as important an enterprise in the academic world as research, we can expect only negative results in a competitive market. They can say, "I'm sorry, but you want me to teach two courses? I really was thinking of doing my first year of research away from campus while you pay me." We are going to have to do something because we are heading into a very competitive market period, and if we continue to emphasize research all across the board, we are going to find that, even at small colleges, people are going to shy away from heavy teaching responsibilities.

My own notion is that since seventy-eight percent of faculty say they prefer to teach, we must define ways by which we can evaluate their teaching, drop the requirements for published

research, increase the number of courses they teach, and reduce the size of those classes. In Berkeley, if there were 1,000 faculty instead of sixty teaching courses of fifteen, teaching would have some impact.

MS. BRYNTESON: I'm wondering if at the Wingspread conference it was mentioned or discussed at all the role of the library in the reward system for the professorate? For example, there's been explosive growth in the number of publications and interdisciplinary journals, the library subscriptions are a validation of a faculty member's research. The resources required to pay for the extraordinary number of journals they subscribe to are astronomical.

MR. D'ANTONIO: The library was not a major focus; undergraduate education was, and the library only came into the discussion to the extent that they acknowledged if they really were to restructure undergraduate education they would have more students using the library than are currently doing so. The textbook removes students from the library, especially in the large classes. They are aware of the potential impact.

I would have to say that perhaps the most significant occurrence at Wingspread and the follow-up work of the Sigma Xi committee was that top scientists from chemistry, physics, biology, math, and engineering were saying we have not done ourselves proud by the way in which we have developed our undergraduate programs at the major research universities. We have done ourselves a great disservice, and we have been fortunate to be able to depend on the small colleges for such a disproportionate share of our Ph.D. candidates. We must find a way to turn this around. Sigma Xi is an important instrument for doing that. It certainly isn't going to do it alone either, because if we don't have the support of state legislatures, and of programs coming out of states like Virginia, it won't be done.

I should note that if you saw this week's *Chronicle*, there is a report out of the AAAS about the need for radical reform. In the last paragraph it says the proposed new courses must be taught in small class sections by senior faculty. You should read the whole report; in the last paragraph, they acknowledge if they are going to succeed, it will be because they are doing it in small class sections rather than the old large lecture halls.

MR. WYATT: You briefly mentioned faculty evaluation, and I think it's very much at the heart of some of the issues you are raising. The argument, as I hear it, is research is much easier to evaluate, measure and grant dollars to. You see publications in the right journals and by the right presses. The argument is teaching is much more difficult to measure and evaluate. The peer process you mention is obtrusive. It's unfairly subjective. Could you speak to that issue briefly?

MR. D'ANTONIO: At the University of Connecticut we do have an extensive student-faculty evaluation process, and I was impressed when I went there that over time the faculty senate worked very hard to improve the quality and, what you might call, face validity of that instrument. We revised it in the late 1970s.

Over a period of time, if you follow the work of a particular faculty person across several courses, you get a sense of whether or not that person is communicating with the students and what the person is communicating. I would not use any single course, any single semester, but I have a fair degree of confidence in those instruments over a period of time. By themselves they are just one measure. You would want to control for grade distribution of a particular faculty member over time and a number of other factors, especially if you tie it in with peer review. You say peer review is intrusive. So is sending your article out for review. I'm worried about faculty who don't want me to come into their classroom. What is it they're saying or not saying? If you say it in a written word and it has to be evaluated, why can't your classroom words be evaluated? But there are ways to do this and I do know that some universities have begun to develop very helpful peer review systems. Again, I happen to know the Connecticut system and the people involved are very helpful to faculty without being threatening.

By the way, some people who get Ph.D.s and want to teach should not be teaching. I come to that conclusion after looking at some things that go on in the classroom. Just because you

want to teach doesn't mean that you're qualified to be a teacher. On the other hand, we have learned a lot about teaching and we can help a lot of people to become better teachers.

UNIDENTIFIED SPEAKER: At many research institutions we are talking about two different things when we talk about two different levels of evaluation. Basically, research by an individual is evaluated and measured within the discipline; that is, by the department. It does not have the same kind of institutional value that would be implied by the evaluation of the teaching institution itself. We need to be structured differently. It would also imply a certain institutional commitment that is not always applied now by the individual within the discipline.

MR. D'ANTONIO: Yes, that's a very good point. Boyer, in his recent report, however, notes that in an increasing number of institutions, it is the quantity of publications, and not what's in them that seems to count, especially at the dean's level. When the dean's committee is made up of a variety of faculty. They may not know how to read a chemistry study, so they count them and they find out what the norm is for publishing articles in chemistry versus philosophy versus math in a given year. Then there are those departments that have so many subdivisions that, in fact, only one quarter of the people in the department may be able to read the work of a particular scholar. So there are a host of variables with regard to the written word, as well as to what goes on in the classroom, that need to be addressed.

RETHINKING CURRICULUM AND TEACHING METHODS IN THE HUMANITIES

Phyllis Franklin

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My assignment is to discuss possible directions curriculum and teaching in the humanities might take in the 1990s, and I start by commenting on the education reform movement of the 1980s, because it provides the context for what may or may not happen to the English curriculum in the 1990s.

I understand you have received copies of Martin Trow's essay.[1] Since I, too, am skeptical of the reform movement, I should say right away I do not think our colleges and universities are perfect. Far from it. But I share Trow's view that the reform reports of the 1980s are, and I quote, "remarkably innocent of evidence"; use excessively dire language; present relatively tame proposals for change; and assert partially confused, or just mainly wrong, historical accounts of higher education in this country. I also share his view that the reports ignore the diversity that exists within higher education, and I would add they ignore the academy's ongoing effort to balance a key historic conflict between the goal of transmitting the culture and truths of the past and the goal of discovering new knowledge and new truths.

I think it worth noting, as Trow and others do, a perplexing difference between the opinions of higher education held by the reformers of the 1980s and the opinions held outside the United States during the same period. I quote Derek Bok on this subject (*The President's Report, 1988-89 Harvard University*). He writes, "Looking back on the 1980s, I am struck by a remarkable contrast in the views expressed about American universities. Throughout tnis decade we have repeatedly heard from foreign sources that our system of higher education is the best in the world in the quality of its scientific research, the inventiveness of its educational programs, its accessibility to all segments of society, and its flexibility in adapting to the differing needs of a vast student population." He goes on to say, "At the time when America's ability to compete is being challenged in many spheres, these achievements should be a cause for celebration. Yet, surprisingly, far from praising our universities, critics in this country have attacked them more savagely during the past ten years than at any time in my memory. Higher education has been termed . . . 'a national disgrace.' Undergraduate education has been accused of 'winding down toward mediocrity' with a curriculum alternately described as 'chaotic' . . . or 'rotten to the core.'

"Faculties, too, have had their share of criticism. According to one recent book, 'The professors -- working steadily and systematically -- have destroyed the university as a center of learning and have desolated higher education, which is no longer higher or much of an education.' "

Despite their flaws, the reform reports of the 1980s have been influential. They called for changes in general education. Core curriculum was in; student options were out, or substantially limited. According to surveys conducted by the American Council on Education, by 1984 "between fifty and sixty percent of the four-year institutions in the United States were either engaged in some stage of restructuring or had just completed restructuring their general education requirements." Two years later ACE reported that eighty-six percent of the four-year institutions were so engaged. You may be as surprised as I was to learn that faculty initiated these curriculum changes in only thirty-five percent of the doctorate universities ACE surveyed. Deans and

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[1] Trow, Martin, "The National Reports on Higher Education: A Skeptical View," *Educational Policy* 1, n.4 (1987) pp.411-27.

presidents were the initiators in thirty-five percent of the universities, while a group identified as "outsiders" initiated change in thirty percent -- almost a third -- of the doctorate universities.

Trow is right in identifying a loss of competence in the faculty as one of the results of the reform movement. I personally witnessed how ready people were to blame the faculty. In 1985 I attended the annual meeting of the Association of American Colleges. When the AAC issued its reform report, I heard William Bennett, who was then Secretary of Education, say, "the curriculum is too important to be left to the faculty." I watched his audience of college and university trustees, deans, and presidents, most of whom could not yet have read the report, nod in agreement.

The reform reports of the 1980s encouraged change in humanities curriculum -- but in one direction only. The sense of faculty sin inhibited discussion of other directions. Also inhibiting was the broad audience the reform reports attracted. Now, you can say a lot of things about traditional academic discourse, which has its faults, but at least it tended to rely on argument and evidence. In my view, too many of the debates of the 1980s took place in the popular press where argument and evidence count very little. The consequences for the humanities have been significant, I think, because the reformers defined two key issues in extraordinarily narrow and restrictive ways.

Consider the issue of the literary canon that was argued in the *Washington Post*, the *New York Times*, and even the *Wall Street Journal*. The books students are asked to read became a matter of grave concern to many outside the academy who saw any sign of a canon change as evidence that civilization was crumbling. Those inside the academy who were familiar with a history of English studies were less threatened by canon change. After all, when the modern languages and their literatures emerged as a college subject in the 19th century, they replaced what, for many years, had been a fixed canon of Latin and Greek classics. Maybe we felt guilty. Since the 19th century the literature assigned to undergraduates in English courses has been redefined periodically. What began as a canon of Medieval and Renaissance texts expanded to include by the 1920s contemporary literature. (I have always had a hard time trying to explain to reformers that there was a time when people debated whether Robert Browning's poetry should be taught.)

Within the field of English studies, generally speaking, one finds fair agreement on the following points concerning the canon, not one of which, I assure you, any reporter found newsworthy during the 1980s, not even the *Chronicle*, but I'm going to repeat them here to give you some sense of the way the field looks at the question:

- While certain works of literature and certain authors have retained relatively stable positions in the canon, other works and authors enter and leave periodically as aesthetic and other evaluative criteria change.
- Canon questions are best resolved at the local level by each college and university in response to institutional mission, the judgment of faculty members, and the needs and interests of students.
- Reports of drastic and degenerative change in the literary canon at the college level have been largely overstated by the reformers quoted in the national press.

But such explanations were useless during the 1980s, not only because they weren't newsworthy, but because the debate became so emotional on both sides. Those who feared canon change seemed to see only what had changed and fought to preserve western culture from the barbarians; those who wanted to add long neglected literature to the canon seemed to see only what hadn't changed and, in effect, argued with Thomas Jefferson, "The earth belongs to the living, not to the dead." Reporters didn't understand the view of many in the field about the canon -- that it wasn't sacred.

The second issue the reformers defined in a restrictive way concerned a model of learning. They insisted on a model that posits a split between skills and content, between the process of knowing and what is known, that is, knowledge itself. Some reformers argued that the nation's educational problems could be solved if only schools stopped teaching skills and concentrated on content, encouraging students to learn discreet bits of information. People who publicly disagreed with this view, or even questioned the model, were harshly attacked in the press. In the words of

one Department of Education official, Chester Finn, the questioners were the problem, the cause for whatever was wrong with education in the United States. While the general public put *Cultural Literacy* (E.D. Hirsch, 1987) on the best seller list and worried about what seventeen-year-olds didn't know, a number of scholars and teachers worried that the skills-content model of learning was keeping them from framing productive questions about educational issues.

Hazard Adams, a professor of English at the University of Washington, speculated in a fine essay titled "The Fate of Knowledge"[2] about ways to overcome the split. Adams concludes that, "It is precisely this tendency to think of knowledge as only content or only skill" that has made the debate thus far "seem so arid," and he proposes that we eliminate the dichotomy by considering knowledge as a process.

Also interested in an integrated view of knowing and knowledge were representatives of seven English associations with whom I worked during the 1980s. In 1982, representatives of English studies organizations began to meet annually to discuss issues of mutual interest. After four years of debating the merit of the various reform reports, we concluded that the solutions they proposed would not strengthen the teaching of English. We gave ourselves a name, The English Coalition, and sought funds to support a substantial conference that would bring together teachers and scholars from schools and higher education to see if we could do better than the reformers had done. I should also admit that during our discussions we realized that we had no common view of English studies, which was a very shocking experience. And so we also hoped to develop a consensus about the field itself.

In July 1987, sixty of us met at the Aspen Institute for Humanistic Studies in Maryland for three weeks of intensive discussion about the teaching of English. Many of the people that attended that meeting claimed that they had to take vows of chastity and obedience in order to attend. We didn't let anybody bring their spouses and we couldn't leave the premises, and we were very isolated. Much to my surprise, we did reach a consensus. It may have been because we were all locked up in one place.

Actually, the reason I was so surprised that we reached a consensus is that it was the most disagreeable process I have ever experienced in my life. It didn't seem as though we could agree on anything at all. However, you will not be surprised to learn that our report did not satisfy the reformers. Our work is now being widely discussed in the field. Its success may depend on how long the influence of the other reform reports of the 1980s lasts.

At the beginning of the English Coalition conference, Chester Finn of the Department of Education urged us to support the concept of cultural literacy and to make up a list of books all American students should read. Interestingly enough, his tone and invective -- because he made it very clear that teachers were the problem -- along with a visit from Don Hirsch, brought a group of strangers together in a way that no other activity could have done. Unfortunately, Don, who was a really lovely person, adopted a metaphor in talking about his work that managed to offend every single person at the conference. He explained that he saw himself as Henry Higgins in relation to all of the students in the United States and in relation to all the teachers in the United States and that he was going to teach them how to do things just as Henry Higgins had shaped Eliza Doolittle. Later in the conference we watched *My Fair Lady* with appropriate hissing and booing.

In the end participants in the English Coalition conference rejected the skills content model as irrelevant for our purposes and moved toward a "knowledge as process" model. On issues affecting the canon, we also disappointed the reformers. We confronted two harsh realities facing English studies in 1987. First, we accepted the fact that the coverage model for literary study was impossible. How many of you are familiar with that phrase, "the coverage model"? It goes back to the 19th century. If you decided to earn a Ph.D. in literary studies, you could expect reasonably to cover the field. Even if you didn't read every single item in the canon, you could expect to read at least representative works throughout the canon.

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[2] Adams, Hazard. "The Fate of Knowledge." In *Cultural Literacy and Idea of General Education*, edited by I. Westbury and Alan C. Purves, v.13. Chicago: University of Chicago Press, 1989.

Well, literature has expanded so much that for years graduate students have known that there wasn't any way to cover the canon, but it seemed very clear, particularly out of the work that Jerry Graf has done from Northwestern University, that the coverage model is simply improbable. Not only can we not expect graduate students to cover the field, but to expect undergraduate students in a major to cover the field is just ridiculous.

The second thing we recognized was that the field could not agree on a single approach to reading text. That is, we had no single methodology that everybody was willing to accept. The earliest methodology of the field, of course, was philology, and it was finally replaced by criticism, especially what we call the new criticism. For some time now the field, especially in the post-World War II period, has had competing methodologies or approaches to interpretation. Some people still do close readings along the lines of what is now the "old" new criticism; others now do deconstructionist or structuralist or post-structuralist readings; still others follow the new historicism. Others are feminists, Marxists, or reader response critics. Others simply identify themselves as pluralists. A single method of interpreting also seems improbable.

Well, given these rather severe liabilities, how were we going to come to any sense of coherence in the field? We decided to take our liabilities and turn them into assets, insofar as we could, and described an English major that posits the need for students to have five kinds of experience and leaves it to individual English departments to define specifics.

First of all, given the fact that we had so many methodologies, we argued that all English majors should know several methodologies of reading and interpretation, that they should be acquainted with the premises and the modes of arguing that each pursues, and that they should be aware of the issues connected with the choice of one perspective over another. If you are a feminist critic, what is it you gain and what is it you lose? If you are a deconstructionist, what is it you can accomplish, what is it you can't accomplish?

Second, we leaned very heavily in the direction of historical knowledge. All English majors should know something of the critical and historical principles behind the construction of literary and cultural histories. They should know the terminology of literary periods, be aware of controversies concerning the establishment of distinctions between periods and understand the general significance attached to the transitions between periods.

Third, we said all English majors should know something about the study of the English language and discursive practices. We propose that such knowledge would be gained by a study of the history of the English language, a study of formal grammar and rhetoric, psycholinguistics and sociolinguistics, and semiotics.

Fourth, we argued that reading was of major importance to English majors. The way we cast it was all English majors should have the experience of reading texts drawn from the full diversity of literary periods and genres, written by authors representing the full range of social, ethnic, and national origins that have contributed to the corpus of literature in English. No small assignment.

And, finally, we said all English majors should practice writing in several modes and for different audiences and purposes with awareness of social implications and theoretical issues these modes raise. Classroom practice should bring teachers and students to experience writing, reading, listening, and speaking as integrated, mutually supporting exercises. This was probably the most unusual thing that we did because what this translates into is putting writing at the center of the English major, whereas it had been traditional to think of writing as something you did before you became an English major. We are saying that it is integral throughout the process.

Now, I think you can see what the basic conflict was with the reformers of the 1980s. Just as our field was recognizing an explosion in the literature available for study and the emergence of multiple, competing approaches for the interpretation of literature, the reformers were saying: "Narrow your focus, limit what you study and how you teach."

Fortunately or unfortunately, because the reformers of the 1980s ignored foreign languages, developments in that field moved forward with little interference, and even some encouragement, as government and business recognized the need for more speakers of languages other than English. Assumptions about how students should be introduced to second languages

have changed substantially. Last year a group of distinguished MLA members outlined these changes. Here's what they wrote:

> Shortly after World War I a committee of the Modern Language Association examined the place of languages in our country and, noting that primary contacts with other countries would be through publication, recommended concentration on a reading knowledge of foreign languages. This approach was widely adopted. Our scientists, scholars, and educated public learned to read French, German, and other languages and spent little time acquiring a speaking knowledge. By the early 1940s, few Americans were equipped to communicate directly with the peoples of other nations.
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> World War II brought sudden and immediate need for communication with peoples throughout the world . . . . At that time only linguists who had investigated unwritten languages like those of American Indians concentrated on a speaking command of language. They achieved that command by memorizing sentences and mimicking the pronunciation of the speakers. In response to the need to introduce very rapidly a whole generation of Americans, not only to a new set of previously little-studied languages, but also to real-life practical use of those languages, the field linguists' skills were employed to impart to our soldiers, diplomats, and administrators an everyday command of languages as varied as Arabian, Chinese, Hindi, Italian, Japanese, and Turkish. The technique was taken over by our universities and supplemented with tape recordings which were also mimicked and memorized. This approach met the needs of the time, as had the concentration on reading after World War I.
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> As our interrelations with other countries have deepened, we no longer find the World War II concept of everyday language adequate. Our students need wider control of languages and better knowledge of cultures. . . . Teachers now present each language as it is used in communication and in accordance with the cultural conventions of its native speakers. . . . This view of language is fundamentally different from the concepts that governed the reading approach of the distant past and mimicry-memorization orientation of the 1940s and 1950s.[3]

As a result of this shift, the field is emphasizing the social nature of language learning and language use. Students are encouraged to use language and interact with other speakers rather than mimic tapes and memorize abstract paradigms, verb conjugations, and vocabulary lists. The recognition that languages embody and imbed culture has discouraged the older view that learning a second language is a simple matter of memorization, of gaining skills. It has also brought increased recognition of the need to learn language in its varied cultural contexts. Second-language acquisition specialists now say that students "must really learn . . . a set of ideal or standard contexts for the forms and structure of the language."

As a result of this shift in focus, the field is recommending the use of a range of authentic materials for language instruction: literature in the language, of course (that used to be the primary material that was used), but also films, television, newspapers, and journals in what they call the target language.

I'm pleased to say that the National Endowment for the Humanities, in response to the field, has announced an important new initiative in foreign languages, and will accept authentic materials as eligible for NEH support. In the past they would only accept what they considered significant literature and not this range of other materials. This marks a real shift in NEH policy that the MLA welcomes.

What you may hear about in the next few years is the field's commitment to modifying institutional arrangements for the study of foreign languages. In the early 20th century, when the

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[3] "Language Study in the United States: A Draft Statement," *MLA Newsletter*, v.21 n.3 (Fall 1989) p.16.

modern languages were still a relatively new part of the college curriculum, the field accepted a two-year unit of study as the minimum requirement for learning a modern language, and the reason they did it was, at the time, it meant that students could also study the classical languages. Gradually Latin and Greek became less important, but the notion that languages should be studied in two-year units survived. Actually, it's not a bad method at the college level for teaching a motivated student how to read a second language, but it won't work at all for achieving the more demanding current goal that students learn to speak, listen to, read, and write in a second language.

The field is now considering three significant institutional changes in foreign language instruction at the school and college levels: First, people in the field want to lengthen the minimum unit of study from two to three years. Second, they want to require that the three years of study be carefully sequenced across levels of schooling and across institutions. Now, this is absolutely opposite from depending on local control or local definition. They are really talking about national standards, national articulation, and agreed-upon national sequencing of foreign languages. Third, they want to require that all language students have intensive or immersion experiences throughout their three years of study. We now know that intensive and immersion experiences are the most efficient vehicles for language instruction in the classroom and should, therefore, be an essential ingredient of any language requirement.

Now, the problem is scheduling. How can such experiences be made to fit the traditional semester? A variety of experimental arrangements have been tried successfully, usually at the liberal arts colleges, with pre-semester or weekend programs supplementing the normal semester-long courses, but we also think that these are applicable in larger institutions.

Here is how one program works: Students wishing to study a new language arrive on campus a week before other classes begin. For an intensive experience in a language, they are housed with other beginning and advanced students of the language and spend that week, both in and out of class, in intensive study and practice in speaking the language, watching television programs in the language, and so forth. They then move into a regular three or four hour a week schedule for the rest of the term, but with motivation much enhanced and a significant experience to build on. A similar sequence follows in the second semester, and some more immersion work, that is, summer school programs, camps, special living experiments, or travel abroad follows.

I believe that institutions committed to providing effective language programs for their students -- if they are'nt already -- will modify the arrangements for language study to provide special housing and study opportunities for students engaged in learning second languages.

I note, finally, a few of the characteristics of the ideal classroom for studying both English and other modern languages, and I think it's interesting that the fields have come together on what the ideal classroom should be. The reason for this is that both fields have been influenced by the same research and theoretical work in first and second language acquisition.

First of all, the ideal classroom is collaborative. It is also small. Second, it consists of a community of learners, and peer interaction is considered very important. Third, the teacher is more like a guide or a coach than a remote lecturer. Fourth, students are actively engaged in speaking, writing, reading, and listening to one another. They are not sitting there passively having information poured into them. Fifth, students are taught to be self-conscious about what they are learning and how and why they do what they do. Within the field, people talk about this as having students learn to theorize about what they do. Sixth, a strong emphasis is placed on inquiry, with students doing the inquiring, working together, getting feedback from peers and teachers. Finally, a sense of community in these classrooms is considered absolutely essential.

You can see that this ideal classroom is not a place where students sit in neat rows and memorize lists. It is, in fact, a very messy model, and it doesn't fit at all with the general thrust of the other reform documents of the 1980s. Students must be committed to learn, teachers must be well-educated and inventive, and institutions must create supportive environments. If this classroom works, students will be motivated to take responsibility for their own learning. They will become sophisticated users of language and they will enjoy writing, reading, and the interpretation of all kinds of signs and technologies.

DISCUSSION

MR. GETZ: You each spoke eloquently about how we might do a better job if we had senior faculty teaching smaller courses at lower levels in our curriculum. That sounds like dollar bills to me, so I wanted to ask you whether you thought you should be raising tuition faster or should be paying faculty less, or whether you had some other technique that you wanted to propose that would allow us to do the very excellent things which you suggest?

MS. FRANKLIN: Let me start by saying that I really do think it's a trade-off. We are painfully aware, because of problems that emerged in the late 1970s through the early 1980s, that if you deploy your senior faculty heavily in introductory courses you often destroy your major and, similarly, if you don't have some of your senior faculty teaching lower division courses, you are not going to have any majors.

So what I've decided is that every institution has to look at its teaching situations, has to look in terms of institutional mission and departmental commitments and decide an appropriate ratio, because you are not going to be able to do it -- unless you are a terribly privileged institution with extraordinary resources. I think there are very few institutions in the country that could afford to do what we might say is the best way. So it really means you must have a trade-off and you are going to have to decide what the appropriate ratio is, what the critical mass is, in individual programs.

MR. D'ANTONIO: At the University of Connecticut I commented that I had decided to get rid of the large Introduction to Sociology section because it got such bad evaluations from the students. I created, instead, twenty-one introductory sections with no more than thirty students in a section. Now, you can do this under certain conditions. I promised the members of my faculty who would agree to add a section -- thus, go from two to three courses a semester -- that if they taught them well and their evaluations were positive, I would reward them for good teaching. Now, I had control of the amount of money in merit awards that would be given out and they knew I was supporting teaching. They also knew that I had done some research, and I got a significant number of senior faculty to add a course.

Several things happened. One, student evaluations improved dramatically. Two, I didn't see any significant decrease in research. Those people who like to do research and are not forced to do research continue to do their research. It may slow down the pace a bit but they continue to do their research. Those who really did not want to do research and had achieved tenure were able to go back and enjoy teaching. Now, that was structured within the department, but not structured into the university. I suppose I should be happy the dean didn't prevent me from doing that.

He also allowed me to develop a course called "Helping Prepare Graduate Students to Teach." I worked with nine graduate students, giving each a small section. We videotaped our classes; we visited senior professors' classes; we invited them to talk to us about what they were trying to accomplish. We criticized each other. We took essay exams and graded them together and looked at the things we did or did not think were significant. And that course became a staple for five years. So there are things to be done. You can work within the department as long as you are given some leeway.

MR. DAVIES: Let me answer from a slightly different perspective. I agree with what's been said. I'm uncomfortable with the word "reform" because it implies, for the reasons Marty Trow raised in his article, that you have been doing something bad. We weren't trying to say you are doing something bad. We were trying to say things have to change because we are changing at an incredible rate. But change costs money, and I think we have to stop apologizing for the fact that change costs money. We have been pushed into a very defensive posture about cost and what the sources of funds are going to be. They are going to be tuition, private giving, and taxes.

MR. GHERMAN: We have learned to depend upon the hundreds of millions of dollars of research funding that come in from our researchers, and if you take them away from doing research, those dollars are also going to dry up. So it seems to me there are two sides to this equation. How do you respond?

MR. D'ANTONIO: That's if all you do is take them away from research and put them to teaching. If research is important enough to be funded, then it seems to me that you fund research. The question at issue might be whether we should fund research the way we do currently, with eighty-five percent or more overhead coming from the government to help support indirect costs within the university. That question demands honest examination.

I'm not proposing that we stop doing research because we need to be doing teaching. I'm suggesting, and I would agree with Gordon, that we have to get the public to understand what it costs to get quality education. But I don't see us removing research funds. I see us as increasing the teaching side of the equation significantly. You do it by working with that significant portion of the faculty that's not really interested in doing research and does not receive much money for research. After all, the major research funding goes to a small proportion of the faculty. All studies show that. To bring about a renaissance for teaching requires an awful lot of honest effort on the part of faculty and administration to educate state governments and the public.

MS. TAYLOR: It seems to me that a very big element in bringing about some of these changes is the leadership exerted by the chairs of academic departments and by deans, and yet many of us are in universities where these positions are temporary, to say the least. Department chairs at Brown serve for three years and then, more often than not, go back into the department, and my observation has been that in many universities they often hesitate to take real bold and radical steps to bring about change because then they are going to have to go back and live with their colleagues.

Do you think that there have to be changes? You mentioned tenure. Do you think there have to be changes in academic governance, as well, in order to bring about some of these other changes?

MR. DAVIES: I do.

MR. D'ANTONIO: I agree absolutely. Although I chaired for five years at each of two universities, I am aware that many of my colleagues take a chair only to improve their financial position and do it for three years so that they can then move back into a department situation which is otherwise attractive to them. They are not looking to tackle serious issues in that department such as the undergraduate teaching issue.

Maybe we need to work at a discipline level, as the American Sociological Association has been doing. That is, the discipline takes it upon itself to look into the undergraduate teaching equation and to propose some changes. We received a Fund for the Improvement of Post-Secondary Education (FIPSE) grant in 1974 which allowed us to organize a Teaching Services Program, and we were fortunate to get two distinguished presidents of the association to give it their support. These presidents are known for their research scholarship. This made it easier for the Council of the Association to give the program in 1978 a Lilly grant, and, as a result, we now publish seventy-five items a year that deal with all kinds of innovative classroom teaching practices. We give summer workshops to provide guidance to new graduate students -- from teaching an intro course to sophisticated graduate level courses. We have workshops all over the country dealing with computer-assisted instruction, improving writing skills, and writing proposals for research grants. We also do site visits for departments, not to help the dean decide how to sanction the department, but to help the department understand itself and its areas of strengths and weaknesses. We do fifteen or twenty of those a year. Most of that work, you might guess, has been done at the small colleges and state universities, not the major research sites. We have only recently had some success at that level.

MS. FRANKLIN: Within the MLA, we house two organizations called the Association of Departments of English and the Association of Departments of Foreign Languages, and they play a similar function; that is, they make it easier for departments. Since membership is institutional and the chairs represent their departments, there are all kinds of issues concerning change in the field and questions about standards, innovative programs, and that sort of thing. These are discussed and chairs are encouraged to go back to their departments to think about trying to make changes. We encourage department chairs to figure out how to encourage change without being the ones to, as it were, impose it from the top. But there are a variety of ways to encourage that to happen so it doesn't have to be all on the shoulders of one person. It depends on the kinds of structures you provide for encouraging change.

MR. VAUGHN: We have recently produced a report on the Ph.D. shortage.[4] We are concerned about that. The report that we put together is focusing on the federal role, trying to turn around their real substantial disinvestment over the last two decades. But we have a second activity going on which is focused on changes in institutional policy. It's sort of our quid pro quo. What can we do? We want to try to improve the effectiveness and efficiencies of doctoral programs if we are going to ask the feds to double their investment in it, so we are looking at ways to try to increase reacception rates, shorten the time to degree -- some of the things that have been talked about this morning. But most are concerned that we are going to have some convergent, and possibly conflicting, demands coming up. There is a group of graduate deans looking at these institutional policies. There is a lot of talk about what we are preparing graduate students for and the lack of preparation for teaching.

One other point came through. A lot of universities are doing a lot more in teaching graduate students how to teach, but to the extent that it's done more systematically, it adds time to the completion of the degree. We're trying to move it in the other direction.

Also, fifty percent of Ph.D.s go into non-academic disciplines. That's across all fields. In the physical sciences about sixty-five percent of people who go into nonacademic degrees. In the humanities it's about seventy-five percent, and that may be because of a tight market: it has dropped about ten percentage points. Nonetheless, I think it will likely be the case that roughly half of the Ph.D.s will continue to go into non-academic disciplines. I would like to know your views on all of these convergent pressures: Should we be thinking about different kinds of graduate education for those who are going into teaching? Not just teachers. I hope that the faculty will continue to be teaching teachers and researchers, but we have separated the category. It isn't going to be probably ever in a teaching career.

MS. FRANKLIN: The last is the easiest one to resolve because what it means is, if you get support for those doctoral students so that they do not have to be TAs, they are going to need to have instruction before they are put into classrooms, because most of the instruction on how to teach is tied to TA programs. But if doctoral students knew where they were going, they simply might use another kind of support so that they wouldn't have to spend their time learning about teaching when they are not going to use it.

MR. DAVIES: John, let me suggest a couple of things. Earlier this week I was in Atlanta talking with some people about another dimension of this problem, which is that there are virtually no black scholars being prepared in this country and very few women in selected disciplines. A man who runs a very successful program in Florida made the point that we may have to broaden our conception of what the population pool is. In the McKnight doctoral program, extraordinary numbers of young people are admitted with GREs that would not get them through the door of most traditional institutions. Then, they perform perfectly satisfactorily. There is a bigger pool

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[4] "The Ph.D. Shortage: The Federal Role: A Policy Statement of the Association of American Universities," January 11, 1990.

and maybe a part of the problem in the way we view graduate education is that we are screening the wrong way.

In Virginia, we want to find ways of bringing potential faculty members into contact with faculty life at an earlier age, maybe as far down as into the secondary schools. We are working on that, beginning to look at ways in which we can start talking to sophomores and juniors about academic life as a career.

Finally, I wonder whether the concerns of groups like the National Science Foundation for mathematics and science teaching are not somewhat in conflict in the standard model of research funding. Maybe, the primary research funding agencies of federal government have to reconcile these two things, too, so that the principle investigator is funded to ensure that part of what her or his graduate students do is learn how to teach, not just carry out the specific research.

MR. D'ANTONIO: I would add two items from the Sigma Xi report that might be of interest. One deals with the role of select black colleges, especially Spelman College, which is cited as a particular example, and has now become perhaps the major source of recruitment of black women into certain of the physical sciences. As a result, they are beginning to reassess the potential of these historically black colleges. They provide women with an opportunity to develop confidence in themselves and to learn from role models, and thus, avoid becoming lost on huge, predominantly white campuses.

The other part of the Sigma Xi report related to Gordon's remarks dealing with the lack of women in the physical sciences, math, and engineering especially. In that regard, I mentioned before a research report by Phyllis Moen entitled "Women as a National Resource." It tackles the question why women are not attracted to physics, math, and engineering with impressive empirical data. Among important points is that many male teachers simply turn them off from the sciences.

MR. NEAL: We read last week in the *Chronicle* that new credentialing systems are being designed to increase the number of people teaching at the high school level. Given the Ph.D. requirement for college teachers, given the Ph.D. shortage to meet the demand, and focused attention on teaching, shouldn't we be considering alternative credentialing devices for college faculty?

MR. DAVIES: Let me ask you a question. I know a mathematician who teaches in the University of California system. He is an ABD and is, by all accounts, an extraordinarily good teacher of calculus. He doesn't particularly care to do research. He doesn't particularly care to do anything except teach. Aren't there a set of disciplines, maybe even all disciplines, in which we could really run a sort of two-tiered faculty system? If we treated people like this man in more humane ways, gave them livable salaries, fringe benefits, some security, the same way we treat tenured faculty; if we did that, isn't there a pool there of people who really do want to teach?

MS. FRANKLIN: We have it in English study, we have it in foreign language teaching, as well as in math. We don't have hard statistics about the degrees. We have a lot of suggested information that probably a majority of the people who are doing introductory teaching in English, freshman writing, have master's degrees. They aren't eligible for regular teaching positions because they don't have Ph.D.s, and they have been doing this work, many of them, for many years. They don't always get what you have talked about, which is humane treatment, but that sort of pool in certain fields does exist.

MR. DAVIES: Humane treatment goes with the deal, as far as I am concerned.

MR. WYATT: Do you see any implications in a restructuring of the university itself in its governance? You spoke about rearrangements of campus and that sort of thing, but do you see any implication for the restructuring of the governance of the university, perhaps away from the discipline-based departmental structures of colleges and universities? That's the first question.

The second one is this: Does anybody see or think that higher education, and perhaps secondary and primary education, as well, has been selected in some fashion by the reformers that we have mentioned this morning as a kind of surrogate, or perhaps even a scapegoat, for many of the failures of society and culture generally? It's a convenient and easy target, perhaps even a desirable target. It doesn't have much power to fire back, but in some ways aren't we talking not only about the problems of education but the problems of our total society at large?

MR. DAVIES: The Commission worried a lot about what Kate Stimpson called "the tyranny of the disciplines" and we envisioned a university in which walls that are now boundaries would become far more permeable. We see that happening, in fact, in the sciences already. They are ahead of the humanities, I think, in that so much of the interesting work is done in between disciplines.

I've become increasingly interested in looking at centers and institutes. Centers and institutes conduct subversive activities. They render permeable those boundaries which are otherwise impermeable. We have to be very clear not to say departments in themselves are evil. It's the existing structures that are rigid. If you do away with all the departments and start institutes, they would become as rigid as the departments. We need a kind of revolution every twenty years. Every time something begins to rigidify, we need to loosen it up. Yes, we were very concerned about that.

Do I think higher education is a scapegoat? I'm not so sure it's a scapegoat so much as a convenient place to focus a discontent and confusion about what is happening in our society. A bunch of people who are old enough to remember exactly the way it used to be, whether it was or not, lead the way in this criticism.

MS. FRANKLIN: I'm uncomfortable with Kate's phrase "the tyranny of the disciplines," particularly because they have done a lot of work in the history of English, which is only one area, I wouldn't even call it a discipline; I would call it a field of study. We had a meeting within the American Council of Learned Societies of the different organizations and talked about the histories of each of our fields, because the disciplines end up getting focused in the learned societies. It was interesting to see that some societies had remained very small just as their areas or the disciplines had remained small. Others had not. MLA is one of these that did not stay small, and in part, it seems to have been because the boundaries were incredibly permeable. The intellectual range was substantial and it was pretty easy to move back and forth and to combine things. In a lot of ways one could conclude that English study has been an imperialistic study, moving into -- whether or not people liked it -- psychology, sociology, philosophy, history and the whole range of disciplines.

My sense is that departments have served very important functions, to the extent that they have been a lot more permeable at various points in the history of higher education than they are often given credit for, and I think the sciences are prime examples. It strikes me that there are instances where there seems to have been intellectual pressure for the emergence of some reconfiguration of boundaries and, by George, the boundaries get reconfigured.

I also think things fossilize. I'm a great admirer of Thomas Jefferson, but I think it's too easy to say "get rid of the departments." I have always watched the way changes occur in central administration in colleges and universities -- not probably at most of the institutions you work in, because they are at what I call the less privileged institutions where the faculty does not have the kind of power that it has at the privileged institutions -- and any administrator can come in and suddenly say, "We aren't going to do it that way anymore." One of the things the departmental structures do is that they keep someone from totally overturning because they build in a kind of slowness. And I'm not so sure that that is always a bad thing.

MR. DAVIES: But the creation of the institutes and the centers is a way of doing that slowly. It is not a top down dictatorial move.

MR. WYATT: But that's not an answer to the question. Certainly at the intellectual level they are permeable. I was asking a question about the governance of the institutions, however, and in governance such departmental structures are not very permeable at the present time.

MR. D'ANTONIO: I was going to summarize it all in one sentence. No, I don't think I can do that. I would suggest that the revolution will have to come from below. It is coming gradually as Gordon and Phyllis have suggested.

James Coleman of the University of Chicago said in a recent Boston *Globe* article that sociology is in a state of disarray and disorder. I see us as in a state of dynamic tension, which means that we have some sociologists working with economists creating a new tradition called socio-economics. But they still move back to their own departments at different times; I'm more interested in what they are able to say to each other and what sociologists working with political-scientists can learn from each other than I am about the somewhat impermeable nature of departments within university systems. If something of value comes out of socio-economics it won't be strangled by departmental boundaries. So I guess I'm not really concerned about that part of university structure. The other part simply leads us into another half hour of discussion which we don't have.

MS. SHARROW: On behalf of the Association of Research Libraries, I would like to thank Gordon and Phyllis and Bill for a very exciting morning.

GENERAL PROGRAM SESSION II

INTRODUCTION

Marilyn Sharrow

University Librarian
University of California-Davis

Our first speaker this afternoon is Carol De Vita. Dr. De Vita is a senior research associate at the Population Reference Bureau in Washington, D.C., and director of the Bureau's publications series, *America in the 21st Century*. Trained as a demographer, Dr. De Vita conducts research focused on the demographics of aging and the changing work force. She is the author of the Bureau's *New 21st Century Report on Human Resource Developments*, that looks for linkages between our changing population picture, education needs, and future work force policies. She has conducted research on child care services for working parents and long-term care services for the elderly. Prior to joining the Population Reference Bureau, Dr. De Vita was a research associate at the Urban Institute in Washington. She holds a B.A. in history from Northwestern University, an M.A. in demography from Georgetown University, and a Ph.D. in social welfare policy from the Florence Heller School at Brander's University. Dr. De Vita will address us on the impact of demographic trends on the future of higher education.

Carol Cartwright will be our final speaker. Carol is Vice-Chancellor for Academic Affairs at the University of California, Davis, a post she assumed in 1988. Prior to her appointment at Davis, Dr. Cartwright served as dean for undergraduate programs and vice-provost of Penn State University.

Dr. Cartwright received her baccalaureate degree in early education from the University of Wisconsin, WhiteWater, and an M.A. and a Ph.D. in special education and educational research from the University of Pittsburgh. Before joining the Penn State faculty in 1967, she was a member of the department of educational psychology at the University of Hawaii. She was a research fellow at the Plymouth Polytechnic, in Dublin, England, and the Bertback College, University of London. Dr. Cartwright's research interests are early childhood development, child care management, and education of individuals with disabilities. She has published extensively in several fields, and has thirteen books to her credit.

In the early 1970s, she and her husband, Philip Cartwright, produced two full length college level computer programs in special education. They were among the earliest contributions to the application of computers in special education. She was also a founding member and co-chair of the Alliance for Undergraduate Education, a group of twelve public research universities established in 1986. Alliance members are studying undergraduate education in the context of the research university. It is a special pleasure for me today to introduce Carol to you because she is my colleague, boss, and friend. She has made a significant difference at Davis in the two years that she has been with us in the area of educational reform, strategic planning, and diversity. Her topic today will be "Institutional Responses to Cultural Diversity."

THE IMPACT OF DEMOGRAPHIC TRENDS ON THE FUTURE OF HIGHER EDUCATION

Carol De Vita

Senior Research Associate
Population Reference Bureau

I am going to talk about the realities of demographic change and how they are creating pressing needs for some of the social and economic structures of American society. Schools are being asked to educate a much more diverse population. Families are becoming more fragmented as a result of divorce, remarriage, and changing residential patterns. Businesses are finding a great gap between workers' skills and work force needs, and the U. S. economy is facing increasing competition from foreign firms and foreign investors.

How well we adapt to change -- both individually and collectively as a nation -- will help to determine the future course of American society. In this context, colleges and universities are going to play a major role. As you heard this morning, the educational system may sometimes be seen as the scapegoat or whipping boy for our problems, but I think whether you are seen as the savior, or as the source of the problem, you are, nonetheless, going to have center stage in developing our future skill base. Colleges and universities will provide individuals with the skills that will be needed to function in tomorrow's labor market, and they are going to provide the nation with a pool of intellectual and technological resources to compete within tomorrow's global economy.

To be sure, no single factor is going to determine what life will be like in the years ahead. But we feel that demographic trends are a fundamental, although sometimes overlooked, factor in the policy choices and personal decisions that each of us will make. They provide the "people dimension" for understanding public policy choices. Indeed, from a demographic prospective, we see that the future has already arrived.

About eighty percent of the workers of the early part of the twenty-first century are, indeed, already in the work force; although not all of them currently reside in the U.S. Next century's first high school graduating class is now in second grade. The elderly of the twenty-first century, if you translate that into the baby boom generation, are well down paths that are going to determine their financial and health care needs in their older years. Political realignments of the next century may be already taking shape in such states as Texas, California, and Florida. These are states that have expanding populations, and where minorities are playing increasingly larger roles in the population base. By the year 2001, these three states are expected to account for forty-two percent of the electoral votes that will be needed to elect a president of the United States. This makes the demographic changes that are occurring there very important to our political structure.

The Population Reference Bureau is looking at these trends and has designed this study on America's future, a series of briefing papers entitled *America in the Twenty-First Century*. I would like to highlight for you today three of the major trends that we feel are likely to have an impact on and be of concern to the higher education communities. They are the aging of the population, the changing racial and ethnic composition of the U. S. population, and the increasing gap in income disparities.

Demographically, our nation is growing older. There were only about twelve million Americans who were age sixty-five or older in the year 1950. Today, the number is close to thirty million; and, by 2030, there could be as many as sixty-five million older Americans. This age group, sixty-five plus, will represent about twenty percent of the U. S. population in the year 2030. Just as a point of comparison, Florida today has about eighteen percent of its population in the age group sixty-five and older. So, we can see a little of our future in the demographics of the state of Florida. The fastest growing segment of the older population is the old-old, those who are

eighty-five and older. The aging of America means that more people are going to be eligible for retirement income benefits, and more people are going to be in need of long-term health care services.

At the same time, the proportion of young people in the population is declining. This is the result of relatively low birth rates that we have experienced over the past twenty years or so. Indeed, by the year 2030 the number of older people in the population is going to exceed the number of young. What this means is that the traditional pool of undergraduate college students, those who are roughly between the ages of eighteen and twenty-four, will be declining and will be a relatively smaller share of the population. As we will see later, the racial and ethnic composition of this group is also going to be changing.

The increasing number of older people in our population has led to concern about an increasing burden of support. You hear this particularly in the discussion of health care costs and social security payments. Right now, there are about five workers for every person who is 65 and older. In the year 2030, there will be about three workers for every older person.

But if we look at the total dependency ratio, that is both children and elderly combined, what we see is at no time in the next fifty years will the total dependency ratio exceed the level that it attained in the first half of the 1960s, at the height of the baby boom. What is really going on here is a policy debate that focuses on shifting costs and responsibilities between age groups and between the public and the private sectors. A new balance of resource allocation is in the making. While we will need to provide for the increasing number of older persons, we cannot ignore investments in our young, particularly in their education and health care. Remember, three workers instead of five are going to have to support our older population in the future. The 1990s are going to be an important decade to make these shifts in our thinking and our resource allocation.

By the year 2000, just over half of all workers in the labor force are going to be between the ages of thirty-five and fifty-four. This middle age period is the time of life when most people are considered at the peak of their productivity and the peak of their earnings capacity. The aging of our work force is really the aging of the baby boom. As baby boomers entered the work place in the 1970s and the 1980s, they swelled the ranks of the labor force. The work force is becoming dominated by this middle-aged group of people, and there is going to be a relative scarcity of younger workers, at least compared to earlier times.

Many economists believe that economic productivity is going to increase during the 1990s because of the maturing of the labor force. But up the road a little further in the year 2010, for example, the retirement decisions of the baby boom population are going to affect these profiles. The big question is whether the baby boomers decide to retire early or remain in the work force. As a society, we are still a little unsure whether we want to encourage the baby boomers to stay in the labor force in order to lessen retirement costs, or if we want them to move out of the labor force in order to make room for younger workers. You are going to see this on your college campuses in terms of faculty recruitment and faculty retirement decisions.

I would like to move on from the aging of our population and talk to you about a second major trend, which is the racial and ethnic composition of the U.S. Today, minorities represent roughly twenty percent of the U. S. population; By 2030, they will account for approximately one-third.

The fastest growing segment of the minority population is the Hispanic community. Current projections show that fifty-nine million Hispanics will be living in the United States in the year 2030, compared to about twenty million today. This may actually be an underestimate, and the 1990 census may give us a better clue as to the extent of growth within the Hispanic community over the past ten years. We are, therefore, a little unsure of some of these numbers. According to our current estimates, eighteen percent of the U.S. population in 2030 will consist of people of Spanish origin. Blacks will make up about fifteen percent, and Asians about five.

Immigration plays a very significant role in the changing of our racial-ethnic groups, and I would like to present to you some data that looks at how that has changed. Until the early 1960s, white Europeans made up the bulk of all immigrants to the U.S. Now, they are are only a very small component. About forty percent of all legal immigrants come from Asia and about thirty-eight percent from Latin America. Like immigrants of the past, the new immigrants tend to migrate

to very specific geographic areas. Seventy percent of new immigrants settle in just six states: California, New York, Texas, Florida, New Jersey, and Illinois. If current trends continue, the non-Hispanic white population or the Anglo community will no longer retain its majority status in California or Texas by the year 2010. "Minority population" itself could become an obsolete political term by the middle of the next century in many communities.

Already in Los Angeles, only fifteen percent of the public school children are non-Hispanic whites, and some eighty different languages are spoken throughout the school system. As educators, I think you can appreciate the challenge that these teachers face. Of the one hundred largest school districts in the U.S., forty-nine already report that over half of their student population is comprised of minority children. The increasing number of minority people places special demands on our schools and our workplaces and on our political system. We need to ask ourselves as a society if we will make a special effort to see that minority people are well educated, economically productive, and become an integral part of our political system. Their numbers are growing.

Just to dispel a common stereotype that we have about immigrants, often viewed as poorly educated and unproductive workers, we find from census data that many of the recent immigrants are very well educated and highly trained individuals. Over one-third had at least some college level training and twenty-two percent of them completed four or more years of college. These percentages are above comparable statistics for the U.S.-born population. On the other hand, about a third of our recent immigrants had only an elementary school education, and that compared to about eighteen percent of all U.S. adults.

There is currently legislation before the U.S. Congress that proposes to modify our immigration laws in order to better match immigrant educational characteristics to the U. S. labor force needs. We often hear of jobs going unfilled, or of our need for engineers or computer scientists. I think this legislation, in part, is aimed at addressing some of these gaps in our labor force. But critics warn that immigration policies should not be viewed as a panacea for addressing skill shortages. It is often hard to determine exactly what our needs are and how to bring people in that actually match those needs. Furthermore, critics warn that immigration policies should not be seen as a substitute for human resource investment in education and job training programs.

The third major trend that will affect colleges and universities is the increasing concentration of income and wealth in a small segment of society. Clearly, this is going to determine the number of students who will be able to afford a college education. Statistics show that between 1967 and 1987, families in the top twenty percent of the income scale accounted for a growing share of all income, while families at the bottom twenty percent of the income scale lost ground. Creeping income disparities raise questions about the vitality of the American middle-class. Will future generations of Americans be able to afford the same relative standard of living that their parents now enjoy?

Today, twenty percent of all children live in poverty, and minority children are three times more likely than white children to be poor. The largest number who live in poverty are in the south, but poverty isn't simply a southern problem or a southern issue. Over half of all Hispanic children who live in the northeast are poor, and half of all black children in the mid-west are classified as poor.

For many young people and their families, the cost of a college education has, indeed, become prohibitively expensive. Data from the U. S. Department of Education show that the average cost of attending a four-year college has risen by forty percent since 1980. Median family income during the same period rose only seven percent. (All of these numbers have been adjusted for inflation.) The annual cost of tuition, fees, and room and board at a four-year public university rose on average from $3600 in 1980 to $4800 in 1988. For private universities, comparable costs rose from $8400 to about $13,300. Six of every ten full-time undergraduate students receive some form of financial aid, the average amount being about $3800 from all sources.

Students from low-income families, particularly minority youths, increasingly feel closed out of the opportunity to attend four-year colleges, particularly when they are faced with those sorts of costs. The high school graduation rates of minority students have increased, and the gap between whites and blacks has closed over time. Hispanics, however, still have a relatively low

graduation rate -- about sixty percent. In spite of this overall increase in high school graduation rates, college enrollment rates for minorities are now lower than they were in 1975. There was a big upturn during the early and mid 1970s, then a decline, and now the rates are bouncing around; nonetheless, there remains a considerable gap between white and minority students.

For many minorities, post-secondary education is likely to be at a two-year community college, rather than at a four-year university. There are many calls for more aggressive recruiting of minority students and minority faculties at four-year colleges and universities, as well as for increases in grant and scholarship money to assist students from low income families. We have to keep in mind that there is a growing number of minorities, and we need to prepare them for the future labor force.

While this array of statistical facts provides a broad framework for some of the social and economic changes that we are going to face in the nation, many of you are probably sitting there wondering, well, how does this really affect my university or my institution? One way that we can begin to look at this, at least demographically, is by looking at the change in the traditional college age student population, that is, of people ages eighteen to twenty-four.

Particularly for state universities that tend to draw large segments of their student body from their state's own population, there are likely to be some wide discrepancies in anticipated growth and change over the next ten years.

Most states -- in fact, thirty states -- will experience decline in the traditional college age student population. The northeast will be particularly affected by these declines. Only five states in the west will see significant increases of about ten percent or more in this eighteen- to twenty-year-old group. This very clearly means that there is going to be a tighter pool from which to draw your students and fierce competition among universities to attract these students. Many universities have been looking to part-time students, students who are working, and older students to fill this gap.

The good news, however, is that, if we look ahead a little further into the 21st century, we see a reversal of this trend. The baby boom women who have delayed their childbearing are now beginning to start families, and the sheer number of women in this cohort means that there are a growing number of babies being born each year. In 1988, there were 3.8 million children born. This is the largest number of births at any time since 1961 which was the height of the baby boom. So, again, as we look ahead, we see that today's infants in twenty years will be ready for college. If you can hold on through the lean years until about 2000 or 2010, you are going to find increases in the traditional college-age population pool. In fact, the projections that I have looked at show that all but eight states are likely to see growth in the size of their potential student body. The 1990s may be lean years, but demographic trends do suggest more plentiful years will be ahead.

Let me say in closing that we do not regard demography as destiny. We need effective public policies to address some of these issues and to change some of the trends that seem to lie before us. The time to act is now because the decade of the 1990s provides a real window of opportunity. The overall size of the U. S. population, for example, is going to grow fairly slowly during the 1990s. Our population is going to age rather slowly while the baby boom is in its peak earnings years. This situation may change in about 2010 when they are ready to retire. For now, measures of economic productivity should improve. We need to make sure that any gains in income and well-being or in skill acquisitions are evenly spread across all groups in our population. As in the past, education and job skills are going to hold a key to future employment and economic prosperity. The question we want to ask is: Can educational opportunities be kept open to minority students and economically disadvantaged persons? Can we use this next decade to prepare for the future?

I think I probably have had the easier half of this program, because it is always easier to identify trends and problems than to think of the solutions that you may want to look for in order to address some of these scenarios. I am going to leave that to Carol Cartwright to address.

INSTITUTIONAL RESPONSES TO CULTURAL DIVERSITY

Carol Cartwright

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This morning, our lead speaker Gordon Davies, in describing higher education planning in Virginia, noted the danger that we will be buried in data. It is a danger that is impossible to side-step completely in an afternoon session on demographics and institutional responses to demographics. The data, of course, are a means to an end, and not the end in itself. Understanding the context -- the qualitative as well as the quantitative aspects -- is important, not so much so that we can react or even predict the future, but rather so that we can be a part of creating it.

The D-words, demographics and data, have long been a part of planning in higher education. But I think there are some other D-words that are going to be critically important for us to think about in the 1990s and beyond. In particular, I think we are going to be struggling to understand diversity, difference, distinction, discrimination, and perhaps most importantly of all, we are going to have to take special care to engage in discussion and dialogue. It is often going to be difficult discussion, unfortunately.

I would like to briefly highlight some data that I hope will set the stage for a series of themes and examples that I would like to develop. I will draw Carol De Vita's overview down to the level of state planning and state policy making, and to the planning that is currently underway within the University of California and specifically at U.C. Davis.

The data fit into a larger context of themes and ideas. The life of any institution contains periods of special opportunity for change and growth, and the University of California is certainly in the midst of such a period because of changing faculty and student demographics, changing paradigms of knowledge, and recent and projected campus expansion. We believe that we have an opportunity to make a truly fundamental change in our programs and our activities at most of the U.C. campuses. We think that seizing this opportunity is going to require quite a lot of initiative and a considerable willingness to take risks. But failing to seize this opportunity is certainly going to lessen the chances of fully realizing our prospects for excellence.

At U.C. Davis, we reaffirmed the importance of the three elements of our mission -- research, teaching, and public service. We affirm the primacy of research among these three, because of its intrinsic value, but also because of its capacity to enrich teaching and service. We believe the time is right at our campus for a renewed commitment to excellence, particularly in research and graduate teaching, and we note the importance of intensifying our efforts to reflect the diversity of California in our students, in our faculty, and in our staff. Finally, we believe in this time of change that to be of lasting value, the change must build on the successes of the past. In our planning, we have asserted the continuing importance of central elements of our campus heritage -- commitment to land grant origins and to undergraduate teaching; concern for the intellectual, social, and physical quality of life on the campus, and in the surrounding community; and adherence to our traditions of collegiality and cooperation.

We work within a context of state-wide planning. California is guided by a master plan for higher education. It is unlike any other in the United States in that each of the three sectors of higher education has been assigned a special mission and role to serve the citizens of California. Only the University of California has the word "research" in its mission. The California State University system has teaching, and the scholarship that supports teaching, as its primary mission; and the community colleges are the access point to higher education for all citizens. It is also the only sector of public higher education that is authorized to offer doctoral programs. This means that we have a mission to include within our planning a special emphasis on diversity and to think

even more creatively about transfer, particularly from community colleges to the University of California campuses, and to engage more positively than ever in intersegmental collaboration.

Let me cite an example. Yesterday, the Graduate Council at U.C. Davis approved a joint doctoral program in educational leadership between U.C. Davis and C.S.U. Fresno. Fresno is a public school district that some experts say is on the brink of either becoming one of the very best urban school districts or joining some that are experiencing tremendous difficulties. There are about sixty-five different languages spoken by the children in the public schools in Fresno. The leaders of public education there are anxious to figure out how to do it better, and they believe that they need graduate level training close at home to help them do that.

Our faculty are excited about the possibility of engaging in perhaps what is one of the finest natural research studies in the world in terms of educational leadership and educational policy. The joint doctoral program is an example of the kind of intersegmental collaborations that will be increasingly a part of our educational activities in the future.

It goes without saying that as a part of public higher education, we must be particularly responsive to the changing demographics in California. You caught a glimpse of that in Carol De Vita's presentation. The demographers are telling us in California to keep our eye on the year 2003. They are projecting that 2003 is the year in which there will not be a single majority group in the state of California. In thinking about diversity, we must consider the overall issues of cultural difference and distinction within our state. We must think about the way in which those differences will influence our student enrollments and the recruitment and retention of faculty and staff.

In terms of undergraduate student issues, we need to take into our planning the characteristics of these students. They are going to be drawn from more and more diverse populations. We need to think about their interests, and, in particular, the long period of time that it takes us to adjust academic programs to student interests, when we choose to make such adjustments. We also need to understand aspects of student success. We are particularly blessed at U.C. Davis by a faculty that takes great care with undergraduate programs and undergraduate students, and we believe that such faculty attention is one of the major reasons that our retention to graduation at U.C. Davis is well above eighty percent. That is a significant achievement for a public university. In fact, over seventy-five percent of students who begin with us as freshmen stay and graduate in five years or less. For those who transfer from community colleges or other campuses, the graduation rate is above eighty percent -- the best in the system, and one that we are very proud of.

All of California is experiencing significant academic planning because of a recent review of the master plan. There are some "unknowns", but there are also many "knowns" in these planning equations. In particular, our planning is based on the time horizon of 2005-2006 because the state-wide projections in planning were based on babies already born in California in 1987. The year 2005-2006 is the academic year in which those children are going to reach their freshman year in college. As we estimate enrollment projections for 2005, we do so on the basis of a number of very important building blocks. We are looking at these key elements -- the number of California births, net migration into California, data about enrollment in kindergarten through twelfth grade, and ethnic changes in our state. We also have to consider the rate of demand, how many California citizens will be interested in attending a U.C. campus, and the factors that will influence students' decisions to enroll in our institutions.

As we trace the change in the number of California births each year, we see that the post-World War II baby boom peaked in 1961; and, from 1961 to 1973, there was an overall decline in the number of California births, except for a small boomlet, which peaked in 1970. Since 1973, there has been a sharp increase, and by 1987, the number of births was sixty-six percent higher than it was in 1973. In 1987, nearly half a million babies were born in California. That number represents thirteen percent of all children born in the United States in 1987. In addition to this very large increase in births, immigration into California began to increase about a decade ago. The Department of Finance in California estimates that net migration into California for 1986-87 (to take a base year for planning) was 380,000. We use data about California births and net migration into the state to estimate California high school enrollments and these, in turn, form estimates of

future U.C. enrollments. Using Department of Finance projections, along with data on California births and net migration into the state, we have made projections of California high school graduates to the year 2005.

By our estimates, the school population from which we will draw the bulk of our freshman class in 2005 will be about forty-three percent larger than it is today. There is a slight dip in the near term followed by rapid and continued growth. The ethnic composition of the high school population will be changing, and those changes must enter into our estimates of future enrollments, as well. In 1986, more than half the babies born in California were Hispanic, black, or Asian. Black and Hispanic students now constitute twenty-seven percent of California's high school graduates, and at today's rates, we expect they will increase to at least thirty-five percent of the high school graduates by the 2005.

The entering classes at Berkeley and UCLA are already above fifty percent, in terms of enrolling members of the four historically under-represented ethnic minority groups. The factors in the University of California's own experience that we consider in projecting enrollment demand also require some attention. The participation rate, that is, the percentage of California high school graduates who enroll in the University of California, was around five percent in the middle 1970s. By 1986, it had risen to nearly eight percent, and it has remained relatively stable at eight percent since then. We are not projecting that the level of demand for admission will change significantly over the planning period, except that over the next two decades, we expect a substantial improvement in the preparation for college of currently under-represented minority students, partly as a result of our cooperation with California public schools. These efforts will increase the rate at which these students become eligible for U.C. admission, and, as a result, we expect this improvement to yield significant gains in the participation rates of currently under-represented groups.

The percentage of under-represented minority students entering our freshman class increased by about one percentage point each year between 1980 and 1987, starting at less than ten percent in 1980. It is now up to 18.3 percent. This resulted from increases in regularly admissible students, with "special action" admissions remaining stable at six percent by a policy set by the Board of Regents. This increase in the number and proportion of under-represented students runs counter to national trends.

We also look at the relationship of student preferences and the decision to enroll as part of our planning. The university has an historic commitment to enroll every eligible California high school graduate who wishes to attend, but not necessarily at a campus or in a program of first choice. A student admitted to the campus of his or her first choice is, as you might expect, more likely to enroll than a student offered admission at a campus that represents a second or a third choice. In other words, as the demand for admission increases, fewer applicants will be offered admission to the campus of first choice, and we expect that the participation rate will decline somewhat. When demographic pressures ease, as they are expected to do in the early 1990s, we expect the resulting greater access to campus and program of first choice to cause participation rates to rise in the university.

To summarize, the assumptions that have contributed to our projected enrollments for the year 2005 are: the number of births; net migration into California; the kindergarten through twelfth grade enrollment data; ethnicity changes; and the results in participation rates and interests that are related to those particular factors. Based on these considerations and assumptions, we are projecting that undergraduate enrollments will rise from the current 116,000 in 1988 to 158,000 in 2005. This is the demand curve, if you will, for undergraduate enrollments in the University of California to the year 2005.

If we add graduate education and health sciences enrollments, we expect demand for enrollment to grow from about 154,000 to about 217,000 in 2005. This represents an increase of approximately 42,000 undergraduates, 20,500 graduate students and about five hundred health science students, for a total increase in this planning period of 63,000 students. I can tell you that we don't have places for all of those students at this time. The expected enrollment demand and projected places on our current campuses demonstrate that there is a point in the late 1990s when the demand curve exceeds the supply curve. We expect by that time, in addition to experiencing

growth on our campuses, that we will be building as many as three new University of California campuses to serve this enrollment demand for the citizens of California.

We are looking hard at projections that relate to faculty. A variable that is of great interest to us is retirement. Even though large numbers of our faculty will be retiring, we are looking not for ways to encourage people to leave, but rather for ways to encourage them to stay and remain productive. We believe that we are going to need all of the faculty members that we can persuade to stay with us, just to meet the needs of our teaching and research missions in the 1990s. We are very aware of the national data about the supply of and demand for faculty, particularly the most recent projections by Bowen and Sosa (1989). They speak to severe shortage in the humanities and social sciences, as well as in the sciences. We are mindful of the tremendous cost of recruitment in this particular supply and demand situation.

One of the most important challenges facing the University of California will be that of hiring the number of highly qualified faculty members we need to accommodate the growth we are projecting, and to replace the existing faculty who will, even with our very best efforts to persuade them to stay, choose to retire. Retirement rates will increase as the wave of faculty hired in the post-sputnik expansion of higher education reaches retirement age. At the present time, twenty-one percent of current faculty positions are occupied by temporary faculty, and for educational reasons, we would like to see this percentage decrease to about fifteen percent. That means we will need additional hires just to achieve a new balance between full-time and part-time faculty.

Even if we don't grow by a single additional student, we will have to hire nearly 7,000 faculty. In order to accommodate projected enrollment growth on existing campuses, we will have to hire an additional 2500 faculty. And, if we build new campuses, we would have to hire another 800 faculty to accommodate the enrollments at those new campuses. The bottom line, or the overall need for the University of California in the next fifteen years, is 10,200 new faculty will need to be hired. The current faculty is about 8,000, so you can see we are more than replacing our current faculty.

Here's an interesting phenomenon about how fast you can grow on a campus. If you look at the availability of faculty in an era of growth, the nature of faculty recruitment influences significantly the rate at which a campus can grow. If we consider the hires that will be required each year at Berkeley, we find that it is a relatively stable number over time. The number of faculty that will have to be hired each year to replace faculty who are retiring is relatively stable. Berkeley is a campus that will not grow, and there is very little impact on its potential to grow because they won't have to replace more faculty than what they presently have, except some slight additions to redress the full-time/part-time balance. At the other extreme, you have a campus like U.C. Riverside, which will be undergoing very rapid growth.

The percentage growth on the base of the existing campus just to expand enrollments at U.C. Riverside is in the neighborhood of nine percent. We believe that is about as far as you can stretch faculty recruitment considering what current faculty have to do to participate in the recruitment. Without the faculty, of course, the campus can't grow any further. To summarize the required faculty hires: no growth -- just replacement -- is about 7,000; with growth on existing campuses, another 2,500; and with growth on additional campuses, yet another 800.

We are particularly interested in the diversity of our faculty. It is one of our major university-wide priorities. You know these data, but I just call them to your attention once again to remind us all of the very difficult job we have ahead in diversifying the faculty. A snapshot of graduate enrollments across the four categories of under-represented minority groups shows that in 1987, only 12.6% of the graduate population were Asian, 6.7% were Hispanic, 3.4% were black, and .7% were American Indian. It is a very grim picture. One of our major priorities must be to fill the pipeline in graduate education. Perhaps the major public policy issue in graduate education is increased support for graduate students, particularly from the federal government.

At U.C. Davis, we have some special problems in faculty recruitment because of our location. We are located about an hour from San Francisco and Berkeley, and about twenty to twenty-five minutes from the state capital in Sacramento. All of that is good news since we are in a very rapidly growing population area with interesting opportunities in the region for different life styles and different living accommodations. We are, however, surrounded by a flood plain, which

has kept our Davis community very small and very homogeneous, culturally. It is sometimes a difficult job for us to persuade women and people of color to come to Davis.

Finally, on almost any variable -- whether it be space allocations, budget, faculty positions, undergraduate student enrollment, or graduate student enrollment -- our campus activity is between fifty-five and sixty percent science and engineering. We deal with faculty supply and demand factors in the sciences to a greater extent than many of our sister campuses because of our very strong involvement in science, engineering, and related programs.

We have advantages, however. We are the most diverse in terms of the range of academic programs of the University of California's campuses. We are the only UC campus with the array of professional schools of law, medicine, veterinary medicine, and management. We have colleges of engineering, agricultural and environmental sciences, and letters and science. We have program opportunities that other institutions do not have, and our planning focuses on finding creative ways to use those program opportunities. We are a campus where the barriers between disciplines are lower than they are at many other campuses. We have a tradition of multi-disciplinarity that we believe will serve us particularly well in the future.

Because of our land grant heritage, we have an affinity for outreach activities -- a comfort level with applied work flowing from the research mission -- that many other campuses do not have. We believe that the land grant ideal is, indeed, a very modern concept in higher education. It does not mean agricultural and manufacturing programs, as many people think it does. Those fields were important during the industrial revolution when the land grant colleges and universities were being established. People still need the research discoveries of the university in the 21st century, but the problems are much more diverse. They are problems of urbanization, communication, homelessness, and health care, to name a few of the significant issues in which the research expertise of the university is needed.

In terms of diversity, we are interested not just in mirroring California's diversity, but in providing a model for building diverse communities. We take the term "diversity" to mean something more than inclusion of women and members of under-represented minorities on our campuses. Rather, we take it to mean an enthusiastic celebration of difference of every imaginable type. We want to get beyond legalistic notions of affirmative action to more expansive notions of valuing and affirming diversity.

That celebration is certainly not in high gear yet. There is a long period of time in complex institutions such as ours between recognizing a problem and moving to effective action. There are some themes that we are trying to use consistently in encouraging our faculty, staff, and students to think about how to build this community that is a model of diversity. One of the "bumper stickers" that we are using to help people fasten on to these ideas is: Think Big, Act Small. There is a tendency in the face of a very complex problem to be paralyzed by the sheer size and complexity of it and to believe that you can do nothing. Celebrating diversity is a long-term goal; every small step, every small action, helps people see how we might make progress on long-term goals and our aspirations.

We have to keep talking about access and excellence. Those concepts have always been the foundations of our university, but all too often the wrong word is placed between the two words. All too often we hear the word "versus" between access and excellence -- between diversity and quality. We need to see the word "and" between those two words on a consistent and regular basis in the rhetoric on our campuses.

In a recent article in the *Harvard Business Review*, the author R. Roosevelt Thomas talks about "having a boarding pass, and now wanting an upgrade," as a way of describing the goals of diverse communities.[1] I think that is a very good way of thinking about what it is we are expecting in terms of real participation on college campuses for individuals who have not been there in the past.

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[1] Roosevelt, Thomas R., Jr., "From affirmative action to affirming diversity," *Harvard Business Review*, v.68 n.2 (March-April 1990).

Arturo Madrid, who is the director of the Thomas Rivera Center in Claremont, California, talks about quality when he notes that all too often it is thought about as a single standard, as something that there is only so much of, and not very much at that. It is a kind of unilateral, unidimensional, homogeneous concept of excellence that will not serve us well in the future. With respect to quality and diversity, we need to think about many ways to have talent, many ways to demonstrate it, and many ways to value it. It is a matter of working day-in and day-out in many small ways to change perceptions and attitudes and values. I challenge faculty and others with whom I discuss this issue to think about the following principle: the "I wouldn't have seen it, if I hadn't believed it," principle. We need to step outside of our own experiences and to challenge our assumptions of what makes quality, what makes excellence.

I want to focus briefly on the work we have done at U.C. Davis on faculty diversity. Faculty make many contributions to our missions of research, teaching, and service. They also have a critical impact on student retention, in developing curriculum, as mentors of graduate students, and in forming the climate on campus. Because of shared governance, they have a central role (and, in many ways, it's not just advisory) in the decision-making about admissions and academic standards, and determining the curriculum. In terms of membership in their own ranks, they hold very important trump cards.

Diversity in the curriculum is important because it reflects those values in the academic core of the university. When the curriculum reflects the multiculturalism that is on our campuses, we signal that many peoples' experience, history, and culture is important. That is why women's studies and ethnic studies programs are important, not just as requirements, but as opportunities for scholarship and research from a diverse set of perspectives.

Our preference is to build ethnic studies through joint appointments. There is strength in bringing disciplinary backgrounds in history and Englisn and political science, and so forth, to the study of African-American, Chicano-Latino, Asian-American, Native American cultures. But we also believe that if we are serious about program development, we cannot wait for many faculty with joint interests to emerge. We believe that it is important to have full-time faculty who are fully committed -- not just to teaching, but to curriculum development -- in the ethnic studies program. We believe also that faculty debates about ethnic studies requirements are important, and that helping faculty to integrate issues of race, ethnicity, and gender into a curriculum is essential.

Finally, let me share with you some of the practical aspects of faculty searches in an institution that is fully committed to increasing diversity. Last year, we had well over one hundred tenure track faculty searches underway. That is not unusual on a University of California campus that is experiencing growth. In the tenure track faculty at the beginning of the year, eleven percent were female and eleven percent were from the four under-represented ethnic minority groups. When all was said and done, in one year of faculty recruitment we made more than fifty percent of our offers to women and minorities for tenure track positions. It's a phenomenal change in the campus culture.

How did we make that difference? Who made it happen? Well, certainly, we made the goals and expectations clear. But the people that made it happen were the faculty, particularly the department chairs, as they worked directly with search committee chairs and with the faculty in their respective departments. There was an understanding of shared responsibility of ways that those outside of the department might help. There was also an understanding that the faculty's prerogatives in choosing their own members would be fully protected.

We developed programs of early outreach to "feeder" graduate schools. We sent department chairs off to talk with graduate students three and four years in advance of their graduation, and inform those graduate students about vacancies we were likely to have. Those students now call us. They say, "I am about to complete my dissertation. I remember the visit of the chair a few years ago. I would like to know what the vacancies are now."

We sometimes identify faculty for tenure track positions a year before the dissertation is completed, and support them during the year on a pre-doctoral fellowship. When the thesis is completed, they move right into the faculty position. We have post-doctoral fellowships so that students in fields in which post-docs are expected have an opportunity to participate with us during their post-doctorate years as a prelude to membership on the faculty.

We invite faculty to come on a regular basis to get acquainted by giving seminars and colloquia. Visiting programs help people get to know us and know what the opportunities are going to be at the campus. We have targeted opportunity programs whereby departments that have opportunities to hire women or members of minority groups can leverage extra FTE out of the central pool by making a special proposal. I had one dean come to me last year and say, "Carol, I have a terrible problem. I have two vacancies, and the three top candidates are a black man, a black woman, and an Hispanic man." I said, "You don't have a problem. You have an extra position." In this case, where someone had clearly demonstrated a commitment to diversity, we were fully prepared to go ahead and make the extra FTE available.

We cluster hires in departments where the climate is quite chilly, and when we believe a single individual who is different is not likely to survive well. We bring in more than one, so that they have built-in support groups. We provide resources from a central fund for extra recruitment visits, if it takes one more visit to seal the recruitment. We make the chancellor and the vice-chancellor available if a half-hour courtesy visit is going to make a difference in a recruitment. We talk with faculty about a kind of mosaic of talents that we think we need to develop so that different ways to be talented come to be more valued.

Perhaps a very important activity is one that doesn't cost anything at all, and that is the personal touch. We make it very clear that individuals are highly desired on our campus. We write them handwritten notes after they have been to visit, telling them how well received they were. We call them on the phone to encourage them to stay in touch and think seriously about our offer. We look for opportunities when we are traveling to a meeting to have lunch with them and encourage them to continue to talk with us. We have identified a number of solutions. We -- that is the collective "we" -- in higher education know what works. We have to choose to use those solutions, and that takes leadership. That takes an individual at the top saying that this is a priority because it is our future.

DISCUSSION

MR. DAVIS: I thought your numbers were very interesting. I just recently left a state that also did a study of secondary education, and their plans were for the class of 2005. What they found was that class of 2005 would be totally non-existent, because it represented a lot of the people that you talked about in terms of those minority groups. You talked about those numbers, yet those are the very students and people who are at risk. They are not even in the pipeline, because over fifty percent or sixty percent drop out. They don't even get out of high school. So, I don't know if your figures reflected it, you adjusted it, or if you have already accounted for all those that are going to get lost, and so what is coming out the other end are those who somehow survive the system.

The other thing I didn't hear is what sort of connectivity you see in California? What are you going to do with secondary education? The numbers, if you just put them in, are there, but everything else suggests that there is an enormous gap and those people aren't being considered.

MS. CARTWRIGHT: There are two different questions. One has to do with the credibility of our numbers for enrollment in the year 2005 and beyond, because of the increasing diversity of the public school population and because of some data that we have nationally about the extent to which those individuals are going to be graduating from high school. One of the variables that we deal with in California is the eligibilities that are established by the state as a part of the master plan. The students who are eligible for admission as freshman are drawn from the top twelve percent of the high school graduating class. So, our analysis suggests that we are not going to be significantly impacted by lower high school graduation rates, because we are already in the very privileged numbers, as a matter of state policy, of students who are eligible to go to a University of California campus as freshmen. The California State University System eligibility is pegged at about forty percent. Their projections are very divergent, because it is unknown whether or not we can, in fact, do a significant job of improving high school graduation rates. So, the U.C. numbers are quite solid because of the eligibility policies within the State of California vis-a-vis the different sectors of public higher education. We do, though, also work hard on the other part. The kindergarten through twelfth grade improvement programs are important parts of our academic programs throughout the University of California.

One of the reasons I shared the joint doctoral example between U.C. Davis and C.S.U. Fresno is exactly because of that kind of collaboration. At Davis, we have a division of education that has, as part of its mission, a group of faculty that are very similar to cooperative extension specialists. They actually have the position title of cooperative education specialists, and they work in the public schools in the Sacramento region very much as the cooperative extension specialists work throughout California directly with farmers and growers. We believe that is going to be a significant part of our educational mission in the future. That's just a very small part of an answer to a tremendously complex and very serious national problem.

MS. DE VITA: I really don't have too much more to add to what Carol has already said, but I think you do raise a very important question. Harold Hodgkinson, who wrote the book *All One System*, makes a very good point.[2] We have in the educational system today not separate systems of elementary education, high school education, and higher education -- which is the usual way that we think about education -- but we really do have all one system. It is a feeder or pipeline system. If we are losing children as early as elementary school, then we really need to think about the entire structure, because there won't be the prepared student that we want in the upper levels of college and graduate school programs if we don't.

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[2] Hodgkinson, Harold, *All One System: Demographics of Education, Kindergarten through Graduate School*, Washington: Institute for Educational Leadership, Inc., 1989.

Clearly the public policy discussions that we are having today focus on just this point: What is happening throughout our school systems? There are lots of reform movements going on right now. The National Governor's Association has been working on this issue and setting some goals. We will have to see how well we can do in resolving some of these questions, but I think it is an excellent point. When we see high school graduation rates for minorities that are just above the fifty percent mark, that gives us cause to ask: What are we doing? Will we have the workers for the future that we want in all areas of society?

MS. CARTWRIGHT: That is perhaps the more critical issue. Our institutions are generally going to cope very well in keeping enrollments up, but the key question is the economic aspect for our future. The quality of life of our retirement depends on the educated work force that is going to be engaged in the earlier years of the 21st century, and, of course, our children's and their children's lives, and the quality of those lives is at stake. So, we need to think hard about these issues, not just because we want to feed the pipeline into higher education; but, because, we have a national need to have a literate work force. It is a very serious economic issue.

The Japanese, if you ask them about American education, will tell you that our higher education is the envy of the world, and public basic education is, literally, at the bottom of the barrel. And they can't understand why we've got it so wrong.

MR. PETERS: Could you address the aging population and life-long earning, and how those dynamics of higher education will begin to interact with the size of those groups of people and affect the plans that you are making?

MS. DE VITA: I think you bring up a very good point, life-long education. We see the structure of our work force needs changing rapidly with new technology, new demands on our economy. No matter how good your academic training is now, it is not going to sustain you for the rest of your life. You will not be able to simply rest on your laurels. There is going to have to be, in the years ahead, some concerted effort on everyone's part to keep upgrading skills, to learn new skills. There has been some research which says that the average person is likely to change jobs about eight to twelve times in his or her lifetime, and change careers perhaps three or four times. This is going to get people coming back into the educational system to learn new skills, to take on new careers, and it is going to change the composition of who is attending your school, how you deal with those students, even the hours that you offer courses at your university. Some of your students are going to be working full-time and be looking for evening courses or part-time courses, and I think the structure of the curriculum, how it is offered, and what is offered is going to have to be thought through in the years ahead.

MS. CARTWRIGHT: At U.C. Davis, it is not as significant an issue as it is at some other campuses, because of the nature of our community and our location. We wish it were more of a draw for us. It's one of the aspects that we talked about, when we talked about a definition of diversities. We talked about that definition including older returning adults, but the reality of our campus is that we are relatively isolated, and most of the adults in our community who are interested in life-long earning are already associated with the campus, and it is still a relatively small percentage. We are currently reaching out to different populations in the Sacramento area, because we have our teaching hospital in Sacramento, and that is becoming a magnet for professional health-related education in the Sacramento region. We need to do much more in that area, but we have been buffered from the real intense demands that some other institutions have had to meet simply because of the size and location of our community.

MS. MOBLEY: I have a comment on the statement concerning our desire for an upgrade once we have our boarding pass. It is more than that, I think, in the eyes of today's generation, it is a matter of being able to sit in the cockpit.

MS. CARTWRIGHT: Well said.

TOWN MEETING DISCUSSIONS

TOWN MEETING DISCUSSIONS

PRESERVATION

Moderator: Carole Moore
Chair, ARL Preservation Committee

The ARL Preservation Committee has put together a panel to present four issues that we think are of major importance for discussion. Each of the panelists will present the issue briefly, and then we invite your comments and reactions immediately following each presentation.

The first one will be mass deacidification; the second, effective access to preservation microform masters; the third, the evolving North American Preservation Plan; and the fourth, the role of ARL libraries in stimulating state-wide preservation programs.

MASS DEACIDIFICATION
William Studer, Ohio State University

About sixty percent, more or less, of the paper-based collections in our libraries are highly acidic but not yet brittle. Many of us, surely those on the Preservation Committee, think it is critical that we look at this issue with an eye toward preserving those in kind, rather than committing them to the future of reformatting, which is what we're engaged in now as a national program -- reformatting of print material.

Mass deacidification, as a concept and as a laboratory experiment, has been around for the better part of the decade. None of our libraries is yet engaging in this very meaningfully, except for the Public Archives of Canada. There are five vendors currently in the field in the United States, and a rather interesting process in the wings in Great Britain.

Let me go over the five processes. Perhaps we've heard the very most about the DEZ (diethyl zinc) process because of the Library of Congress connection. Owned by Akzo Chemical, it's a gaseous process using zinc oxide, and there is a plant in Texas that can now accept materials for deacidification. "Bookkeeper" was developed by the Coppers Company in Pittsburgh, and the patent is now owned by Richard Spatz, who is retired from that company. It, along with two others, uses magnesium compounds to deacidify. Unfortunately, it, along with those two others, is a non-aqueous liquid process that uses Freon, which is the chlorofluorocarbon that's eating away at our atmosphere and causing the greenhouse effect. It certainly is going to be outlawed one of these days. The companies in question are all desperately searching for a substitute, but have not found one yet.

The next is Book Preservation Associates (BPA). It was once known as Booksaver, but they no longer use that name because it refers to a product patented by some other company. It uses ethylene oxide and ammonia and is a gaseous process. BPA is actually in full operation because there was nothing else developed to deacidify books. It uses one of three plants that are in business to sterilize medical products and cosmetics, and it simply uses the same machinery. They claim they can do seven million volumes a year right now. I'll say a little bit about cost later.

The Lithium Corporation of America has launched the Lithco process, the most recent entrant into the field, and one that propounds strengthening of paper as well as deacidification. This is part of a mega chemical company. In the Lithco process, there is an interaction with paper cellulose through hydrogen-carbon bonding of the broken bonds in the paper fiber, which is what strengthens the paper.

Union Carbide Preservation Services is a joint venture of Richard Smith and Union Carbide. They now have exclusive rights to the Wei T'o process, that is the deacidification methodology which has been with us for the past twenty years. This one, too, is a liquid, non-

aqueous process using Freon. It is the process in use in Canada and at the Bibliotheque Nationale. The British Library has developed in the laboratory, and so we really can't say very much about this, a process known as graft copolymerization. What it does is, in some way I don't quite understand, bombard paper materials with monomer solutions, and then irradiate them with gamma rays. The monomers transform into the polymers, and therein lies the strengthening feature. It's just like encapsulating the papers, and it prevents further deterioration from acidification. So it really is not a deacidifying agent, it is a strengthening agent, and it's meant to treat brittle materials; that is to say, to preclude brittle materials from requiring reformatting. It is, however, strictly a laboratory-proven operation. As far as I know, the British Library is seeking money to build a pilot facility to test it on a larger scale.

What we really need to know to have confidence in these various vendor processes is: Does the process strengthen? Does it deacidify uniformly across the page to a level of 7.5 pH? Does it leave behind an alkaline buffer that is deposited uniformly across the page, and will the buffer last over decades? This is the artificial aging issue. Is the color affected? Do the inks run? Are the dyes adversely affected? Is the binding weakened, or are the glues in the binding weakened? Is it safe (a very, very critical issue) both for staff to handle and for our patrons, as the materials are deposited back into our stacks? There's a new term, at least new to me, that has evolved here: "off-gasing." Will these materials, when put back in our stacks, emanate some kind of invisible gas that is toxic over time?

All the vendors claim their processes do all of these things I just mentioned. They've done testing themselves, but we have no objective third-party tests. I think that's what we have to have.

The CIC libraries, which are the Big Ten universities in the middle of the United States plus the University of Chicago, have regular meetings of library directors. We've had a task force on mass deacidification operating for about a year, and we've interviewed each of the five vendors extensively. We've listened to what they had to say, and have gone about trying to solicit information on who's willing to test the parameters for the processes. We received a bid from the Battelle Memorial Institute at Columbus, and they are prepared to test how well deacidification occurs (not including toxicology testing) for $381,000.

We want to move forward in the CIC because we feel it's critical to make a choice before some of these vendors disappear from the field. They've all invested money in development, but they really are deriving no revenues. And it is quite conceivable that the parent companies, who may see this as some kind of subsidiary boondoggle, will simply pull the plug on these processes because they fail to generate any income. That will limit our options.

We were going to move ahead with fundraising through the CIC group and see what we could do with the Battelle proposal. But intervening is a whole new set of players at LC with an RFP about to be issued in June, we hope, for deacidifying the Library of Congress materials. LC, of course, has worked closely with DEZ, which is now a licensed process in this country. Akzo has the license to build plants wherever it wishes for that process.

It appears that the Library of Congress will, in fact, cause to be done the very testing on all of these parameters I mentioned as part of the requirement in responding to the RFP; that is, submitting samples to each of the vendors in question, and requiring them to send them back through some third party, who would then provide the Library of Congress with all of the analytical results of what happened during those deacidification processes.

I think the CIC, at least momentarily, is going to step back and see whether it can wait out the LC process, so as not to have to engage in fundraising in order to have some confidence that one or more of these processes are ones we can afford to use without anxiety.

I'll mention one final issue about which Scott Bennett was very emphatic in our meeting Wednesday morning. We have to assume that one or more of these processes will prove to be viable and affordable. We're looking at very, very imprecise pricing. Costs are somewhere in the range of three to ten dollars per unit. I wouldn't take that too seriously because there are no production level statistics yet. None of our libraries has any kind of supplementary kitty in order to start this process. There's nothing substitutional about it. It will have to be done in addition to everything else we're doing. If we don't do it, we're going to consign large portions of our print base to the brittle category. And I don't think anybody wants more microfilm if it can be avoided.

MR. GOVAN: Do you think the processes that both strengthen and deacidify have promise?

MR. STUDER: Yes, I do, Jim. The Lithco process is the only one that claims to do that. The BPA says that, in some cases, for reasons that they may not be entirely sure of, some things seem to be strengthened. But Lithco actually claims this is part of its design process. It designs the chemistry to do that. That's one process that has the real problem of using Freon 113, which is a chlorofluorocarbon. The representatives were very glibly confident when we interviewed them last fall about finding a substitute for Freon. DuPont is working on that, because, obviously, DuPont makes a lot of money selling Freon, and it would like to make a lot of money selling a substitute. So, it certainly has promise.

There have been some things done. Lithco just opened a pilot plant in Bessemer, North Carolina. You may have gotten announcements about it in your mail. I don't think it said how many items they can treat, but probably as many as you're interested in sending. Until proven otherwise, I think it has some real promise. I think the DEZ process also has some promise. All of these are backed by some kind of substantial corporate interest and money, except Booksaver, which belongs to a retired individual who persists in the field, but really has never done anything beyond laboratory-level testing. I think the largest number of books you could deacidify in this process is eight, and there is no pilot plant.

MS. VON WAHLDE: As we see the Commission on Preservation and Access working to raise money to save brittle books, is there any likelihood that it could expand its mission or begin to look at the fact that we should save the ones that aren't yet brittle? Is there a way for them to move into this arena?

MR. STUDER: I can't say that there is a way. But I think there is some recent activity. The CIC, along with some other librarians, met with the Commission during one of its regional meetings in Chicago late last year. We brought up the issue of deacidification because that's very central to our agenda. I recall Pat Battin saying that while they don't give grants, once we had determined the CIC course of action and had a price tag, she might be able to do something.

I think they are interested in deacidification. But certainly it doesn't seem to come out that way in the focus that they have now. We're talking about prevention that will be much better than the tons of cure required if all of these things are going to have to be reformatted some day. And, of course, the fact that the book format is preferred above microfilm is a critical issue.

Scott Bennett at the Johns Hopkins University is going to take the plunge and treat a number of items with the DEZ process in the Texas pilot plant. The Library of Congress has funded an extensive toxicological testing of the DEZ process by Battelle. It is roughly a million-dollar study involving laboratory animals. Sometime in mid-summer or early fall we're going to have the results, assuming LC will publicize them.

So for one vendor process, we're going to know in very precise terms what a very qualified testing organization says about the toxicological aspects. Unfortunately, I don't know how we're going to find studies of these other processes with the same quality and depth as the DEZ study.

MS. TAYLOR: I think keeping an eye on testing, encouraging testing, and then publicizing the results -- assuming that they are positive -- is going to be very important. You see what can happen on a campus with people getting very excited about potential dangers from chemicals. Consider what might happen if half truths get out there: that the library is treating the books with some sort of mysterious chemical that will last forever, and who knows what. I think it would behoove us to be ahead of that as much as we can, so we're not put in the position of having to react to something we can't quite answer.

MR. STUDER: There are some studies going on aside from the one toxicological study at Battelle. The University of Toronto did a consultant-based analysis of the five vendors, which resulted in

some numerical rankings that seem to name a winner. Someone is doing some testing on BPA for toxicological outcomes.

Battelle Europe is doing a study of DEZ for the German National Library. Battelle Columbus, in its proposal to the CIC, said that the results of that study in Germany, which should be available sometime mid-year in 1990, would be fully disclosed. So that's an attraction of the Battelle proposal to CIC: all of the Battelle Europe test results would be available free of additional charge, so to speak. Three hundred and eighty-one thousand dollars is a big number. But the CIC Task Force didn't think it was insurmountable.

MS. SITTS: I just wanted to alert folks that the Commission has been tracking on mass deacidification. We will be bringing out a rather extensive paper within the next six weeks that will present -- and I think understandably, yet in complete detail -- what technical evaluation factors are needed to examine the different processes. I think ARL is bringing out another side of the mass deacidification issue. But we already are working on the process of finding out information about what kind of testing and evaluation are required. So, that will be coming free to all other ARL members probably within the next six weeks.

MR. STUDER: ARL will be distributing a paper by Karen Turko, who was the principal investigator in the Toronto study. It's not going to be a digest of that study, it's going to be an awareness paper on mass deacidification. We're glad to hear the Commission is tracking. Is that a paper that Peter Sparks had a hand in?

MS. SITTS: Yes.

MR. STUDER: I should mention, there's a new head of the office at LC, Ken Harris. He would have liked to be here at the ARL meeting, but he's in Europe tending to a previous commitment. He came from the National Archives area in Washington, and he just started at the LC in April. I think from now on he will be a participant in the ARL Committee on Preservation. I'm sure he can tell us something more than we know about the LC-RFP process and how far that intends to go.

MR. BENNETT: I hope, as you do, that the Commission will take some leadership on the issue of mass deacidification. What I hope is that the Commission will see the importance of backing comprehensive preservation programs in our libraries. They have, so far, defined their mission not as comprehensive, but solely around reformatting, and have made a cogent, sensible argument for doing so. I think the issue for ARL is whether we are going to surrender leadership on preservation to the Commission or whether we will have a distinctive role and voice ourselves. I think that mass deacidification is a test of that. I hope the Commission will move in the direction that Barbara suggests. I don't think we can responsibly wait for the Commission. I think we need to lead the Commission along a different vein.

EFFECTIVE ACCESS TO PRESERVATION MICROFORM MASTERS

Carole Moore, University of Toronto

The recently updated discussion paper on the concept of a central collection of preservation microfilms issued by the Commission on Preservation and Access states that the National Endowment for the Humanities' program to reformat three million volumes over the next twenty years with federal funds carries with it the obligation to provide cost-effective, rapid, bibliographic, and textural access to preserve materials, as well as separate storage and master negatives and printing masters. The potential size of this body of microfilms; the cost of new technological capacities for delivery; and anticipated economies of scale in managing the distribution operation and the obligation to provide cost-effective, convenient access to the user argue for the establishment of a centralized collection of printing masters.

It's clear that convenient, speedy, cost-effective access methods are highly desirable. At present, many of those who have substantial master microform collections do not want to add to their already heavy burden with added storage and distribution costs. On the other hand, users often do not have uniformly satisfactory mechanisms to get inexpensive, speedy access to these materials.

At present, multiple sources charge widely varying costs, and the turnaround times differ greatly. The end user is highly dependent on local priorities of other institutions for service. Nevertheless, the proposal for a centralized service raises many questions. Some of those mentioned by the committee and heard elsewhere are the following: Will centralization solve the problems we have now? More specifically, where would the centralized facility be? How would it be funded? Can we maintain an efficient and effective central facility without competition? Would the volume of uses be sufficient to maintain the low access charges that are estimated in the present proposal by commercial storage facilities? Can we trust these estimates? What other models might be considered? A possible model, currently in operation, is the Center for Research Libraries, which is considering its potential role in this area and how it might meet the needs of the wider community of non-members.

Another possibility is the present dissertation facilities. For example, our thesis facilities, University Microfilms and the National Library in Canada, offer fairly highly-centralized facilities for dissertation storage and distribution. It seems that they have provided the library with welcome relief from that aspect of a collection and copy service. There are also many newspaper microfilming projects which are stored in state or regional facilities according to the grant requirement, which appear to be operating fairly effectively.

Furthermore, the issue is an international one. As cooperative projects are organized in other countries and an international database is established, it is obvious that we also need access to the films themselves. Even those who might argue that the present U.S. system works sufficiently well would have to agree that international access is not convenient for the end user. Further questions are: does each country need to have one -- or in the case of U.S., more than one -- facility within its own borders to house all films of the other nations. Or can the U.S. depend on satisfactory access to the facilities in the U.K., Canada, France, or other countries? I think if we're going to be negotiating successful, reciprocal agreements with other countries, it will require a more streamlined system than we have now on the part of all countries.

MR. STUDER: A few of you may remember one discussion on this topic at the ARL meeting a year ago that was seeded with a position statement by the Commission. It was not well-attended because it was scheduled opposite the serials pricing session, but the people who were there, I think, turned out a rather strong consensus that gave serious consideration to centralizing the microforms. It was estimated the microforms will number at least five million within twenty years. There are the three million that the federal program hopes to accomplish, as well as those preexisting or done with non-federal funds, which are estimated to be an additional two million. The problem is one that every library that builds a store of these microfilms and has to respond to ad-hoc requests has. This would not seem to be very productive, and certainly not conducive to uniform service pricing. The few we have at Ohio State, for instance, we have to send out to a service bureau for reproduction, and you're going to pay top dollar to get a copy from us. There are lots of details to be discussed. The issue is, conceptually, is there any support to pursue the whole notion of centralizing the holdings?

MR. LEINBACH: You mentioned CRL. Is there any further thought for a role for CRL as we talked about it last night?

MR. SIMPSON: There is certainly a lot of thought. It's a very complicated issue. Carole has touched on a couple of the really key issues. Use, for example, is a very important item when you consider the economics. A commercial firm is going to look for very high-use volumes in order to justify relatively low costs both for storage and for reproduction and delivery.

Statistics that we have gathered over the years at the Center in surveying our members on this issue do not convince us there is going to be significant use. We're also unconvinced that libraries are going to want to buy or only buy, I should say, giveaway copies. Particularly, smaller institutions are not going to be able to do that. They're going to want to borrow from others. Do individual libraries want to add to their already large inter-library loan net-lender burdens by being in that business, or do they want to centralize it somewhere else? The Center has done a very quick and dirty study recently surveying its members on the issue of depositing service copies at the Center and whether that kind of program would work or not. Two things are clear from the survey. One is: No, it will not work because most libraries are not going to pay the additional cost of producing a second service copy. In fact, some libraries are really challenging the notion of producing the NEH-required three copies, an archive master, a production master, and a service copy. They would like to combine the first two into one.

Preservation officers, of course, are offended by that notion, because you should always, as they say, have a copy or an original that will go into a vault and be secured, but then also have a production master available to produce copies for sale or lending. But, if the use is going to be low, perhaps, these libraries would argue, it's just not necessary that you have three copies and you could reduce your cost by perhaps twenty or twenty-five percent, and that money could be allocated for more original filming.

So, I think that's the biggest problem we have right now -- and that brings me to the other clear point that resulted from our survey at CRL: for most libraries, maybe I should say for many libraries, this is a non-issue. It just really isn't important, particularly for those libraries who are not engaged in any significant filming or who have no filming labs of their own. Another thing I think we learned is that we have a lot to learn. We really don't know much about this, and there's an awful lot of speculation. Models are being constructed that are really houses of cards built on sand. I think that our study is progressing. We have an advisory panel of preservation officers chaired by an ARL director with significant preservation experience. We're trying to build a scenario to test whether the Center's program can be expanded. As you know, the Center's program has been doing nearly all the elements of this program for forty-one years.

MS. TAYLOR: I remember from the session last year, that one of the things that seems to interest people quite a bit is the fact that, ideally, in the future, a lot of this microfilm might be recaptured by us or sent to users in a form other than microform; in other words, in digital form. And we should probably try to look down the line a little bit and not think of this solely in terms of selling microform copies or shipping microforms around in some way.

MR. STUDER: One of the arguments for centralization, at least at this stage, is that the equipment that would be needed to transform microform into various other formats, digitized, will be expensive enough that it will need to be centralized, and every library couldn't do that, as we now have these arrayed across the country. If you send it out to a service bureau, obviously, the cost issue will become a very, very difficult one.

MS. TAYLOR: Plus, if you digitize it in some way, you can't manipulate the present microforms. And there are all kinds of possibilities there for these multi-media access tools that we're going to be working with.

MR. LUCKER: The cost of establishing a national facility or regional facility is tremendous. Just the cost of erecting a building that would be environmentally appropriate for microfilms is not trivial. It turns out that a lot of the buildings that have been designed for the storage of printed material are not appropriate for microform. Of course, we've been using the Harvard Depository for the storage of print, but it's not really accessible for microfilms.

There needs to be at least consideration of more than one method of dealing with this. I guess I have to be very provincial about this, because we have a laboratory at M.I.T. that provides almost all of the needs that we're talking about. Albeit a rather small one, we do have the capacity to produce from both microfilm and microfiche paper copies on demand. We have a new machine,

which is not very expensive, to take microfiche and scan it and print the microfiche. It also digitizes that, scans that copy, and stores it for future reproduction. I have offered, at least locally to other ARL libraries in New England, the possibility of working together in the area of microfilm reproduction. We would be willing at M.I.T. to serve as a printing agent for other ARL libraries, to provide paper copies or even duplicate fiche or film copies from their films if we could find some way to work out the logistics. We have the capacity in the laboratory to handle a reasonable line of this material.

This is certainly not going to solve the national problem. I'm not interested in becoming the University Microfilms of the east, but we will be talking to ARL members who might have some need for reproduction from film to fiche who don't want to set up big facilities of their own.

MR. WILLIAMS: Where is UMI in all of this?

MS. SITTS: It seems to me in the literature that UMI brought up recently about their new preservation services, that that was mentioned as a possibility of what they might do. I know that they have talked about possibly doing an informal RFP for this facility. They will definitely be an interested vendor.

EVOLVING NORTH AMERICAN PRESERVATION PLAN

Joseph Rosenthal, University of California-Berkeley

What I'd like to do is suggest some markers on a yardstick that possibly measures our approach to a North American Preservation Program. How far have we come? Are we heading in the right directions? What's left to do?

Several items are relevant to all of this. The first is the testimony of Jim Govan. Speaking on behalf of the ARL, the Preservation Committee of the ARL, the Commission on Preservation and Access, and the National Humanities Alliance, Jim presented testimony before a subcommittee of the House Appropriations Committee on May 1st of this year.

Second, the ARL Preservation Committee is working to develop models of preservation program organization and activity for research libraries of various sizes. It's expected that we will have something in concrete form possibly by the end of this year. One of the objectives of developing such models is to aim toward equilibrium in preserving research collections by the year 2000; that is, we would not be adding to the net preservation and conservation backlogs, or to the stock of materials in danger. With this in mind, let me pose the following question: Are the resources adequate in terms of money, personnel, know-how, facilities, training, and research?

Third, a North American Preservation Program should embrace the full scope of preservation needs for collections of research value. In looking at or in thinking about the full scope, I'd like to suggest that this include preservation needs rising from whatever cause. A major one, of course, is the deterioration of acid-based paper. But preservation needs and urgencies arise also from use, from mutilation, from theft, and from disaster. Do our preservation programs singly and collectively address all of these needs or all of the needs arising from these various causes? A further consideration in looking at the scope of the North American Preservation Program is: Does it embrace materials of whatever kind that are valuable for research -- not just paper, but audio materials, video, photographic, information in digitized form, and others?

A fourth set of questions or considerations: The North American Preservation Program should embrace or should achieve a balance of technologies such as microformatting. In addition to microformatting, photocopying, repair, restoration, and technologies that are not yet stabilized should gain attention. We've heard about mass deacidification. That's one. But also consider how to preserve information in digitized form.

Finally, is there an effective and acceptable decision-making process with respect to policy formulation in this field and with respect to the allocation of resources? Where are we? Where have we come? Where are we going?

MR. GOVAN: I represented the Association at the hearings and did make the presentation; however, I'm deeply indebted to Pat Battin and the staffs of both organizations for the statement that you will find on the table. It was comprehensive. The National Humanities Alliance also played a crucial role.

I think there are three main points that need to be mentioned. There had been a cut by OMB of $800,000 in the next year's appropriation. It was clear that the congressman who was holding the hearings, Representative Yates, was not fully aware that this had occurred. I think this underlines the importance of writing to people in Congress about our needs. None of us apparently had alerted him to this. I guess we all assumed that he understood that this had been done. But there was a hurried conference between him and his aide, and he, in typical fashion, sort of went halfway through the ceiling, because he said, "The reason I got interested in this is the threat of loss of material that time, and time alone, would incur. If you cut $800,000 out of the yearly appropriation, you're prolonging the period of twenty years that we aimed for and you're going to lose a lot more material. It's more than simply a monetary matter, it's a substantive matter." I was quite pleased by the way he picked up on that.

We also had another major point, having to do with the $900 million we were asking for to assist the libraries with comprehensive collections (who are now carrying the burden of this effort) to repair materials damaged in the microfilming process. So, we asked for a total of $1.7 million in additional funding. We brought up the huge question of archives and what might be done about them. Well, I don't know how many of you have been exposed to Representative Yates. I can tell you, it's quite an experience. I didn't get a chance to say anything about the archives. In fact, I didn't get a chance to say a lot about anything. He talked a while, and then said, "Did I get your message?" And I said, "You at least got part of it." But I wanted to talk about the archive problem and the repair problem and about how this thing had become a catalyst and how people had cooperative programs going on in various states, and so forth. I didn't get much chance to do that.

On the other hand, I think it's important that we recognize the crucial role this man plays. I'm a member of the Commission, and I have half seriously proposed to the Commission on Preservation that we immediately start a program to preserve Representative Yates, because I don't know what we're going to do when he's not around. It's clear he may not be around much longer, and he's carried us almost single-handedly. We're deeply indebted to him. But we have to find a successor if we're going to be successful further on.

I want to emphasize, too, after listening to the discussion, that I think it's important we recognize this is a deeply political process. I know we are all very much involved and emotionally attached, and we think that it's so virtuous that nobody could oppose us. That's not the case. Representative Yates has had to fight long and hard to get what we've got already, and there may be some chance of putting it at risk if we try to spread the spectrum too much. I'm not speaking for the Commission, and I don't mean to be partisan in any of these issues, but I am concerned that we not overload the wagon for fear that it will break down.

One of the essential things in this is clear. There seem to me to be two crucial characteristics about the microfilming of brittle books that caught fire in Congress. One is the element of time and the fact that this is a technology which allows one quickly to capture the material and to preserve it. The other thing is the ability to share and transfer microfilm. I think if we underestimate the significance of either one of those qualities, we're likely very quickly to lose public support, because we are talking about public funds. I think that's why this share-ability, the transferability, is so significant. I hope we don't lose sight of that, for we could lose the whole game.

MS. TAYLOR: While we tend these days to focus a lot on the programs going through NEH, we should not forget that we have an opportunity here in the reauthorization of the Higher Education Act. There is, and always has been, a preservation component in Title II, Part C. It seems to me that offers a mechanism to address some of the concerns we have heard today about things that the NEH program isn't touching at the moment. The other thing is, NEH has made it very clear that they are encouraging those of us who are in states which do not have a state-wide preservation program. They are very, very receptive to seeing that process get underway. They're looking for

planning grants. We in Rhode Island came back after the meetings last February, rushed to get a group together, and got a planning grant. It's being received very favorably. And we intend to see a state-wide program in Rhode Island with state funding, however small it might be at the beginning. So if there are institutions here in the states that have not yet made a move in that direction, I would urge people to take advantage of that while the opportunity is there.

THE ROLE OF ARL LIBRARIES IN STIMULATING STATE-WIDE PRESERVATION PROGRAMS AND FUNDING

Scott Bennett, Johns Hopkins University

One way of formulating the question that could be before the Preservation Committee is: Should an obligation for ARL libraries to involve themselves in state-wide planning be a part of the document that we are now drafting to describe what a mature and effective ARL library looks like? And if so, then should ARL construct such a model program?

Why is state-wide preservation planning a distinctive issue for us? Most of our preservation activity tends to bring us together as ARL libraries. But, if we take an active role in state work, we will find ourselves working with non-ARL partners. We will find ourselves working with state historical societies, state libraries, local historical societies, public libraries. For many of us, especially in the private sector, these are not our customary partners. Why should we participate in such planning? What's at risk? A great deal of the local heritage of our communities is at risk if there are no state-wide plans. What is more, state-wide planning is virtually impossible without our participation by virtue of NEH's requirement that the major holders of the cultural heritage of each state take part in the planning effort. That's us. So, if it's going to happen, it's going to happen with our participation.

I think there are some distinctive features in our participation in such planning. One of them is that our partners will have quite a different consciousness. They will have different expertise in dealing with those issues and they will have quite a different budgetary capacity for preservation activities. The range of material that is thought to be appropriate for preservation will also be quite different. And their ability and our ability to mobilize public opinion and support for preservation activities will be quite different. Beyond that, I believe that working with a constituency with whom we do not always work will pose special problems. We will have very important teaching and leadership roles, but with a group that does not instinctively turn to us for leadership and teaching. We will act from a constituency base of our own that does not customarily think first in local terms. Most of our faculty think of themselves as acting in a national or international arena. It does not come naturally to them to think that their libraries should maintain a significant local focus.

Those are the issues. And again, I return to the question: Should state-wide preservation planning be part of the description that we are now constructing of what a mature and effective preservation program looks like? If the answer to that is yes, should the Preservation Committee take specific steps to help ARL libraries work in a somewhat different arena?

MS. SMITH: I would like to comment on your point about training and Joe's earlier point about the availability of resources. I'm concerned about this. If you have not tried to hire a preservation officer lately, it's very difficult. You can't buy them. They're just not there. I don't know where the training is centralized, but as more money comes in the pipeline, it's going to be very difficult to find the kind of people that we need to do the job and train people who need help in the states.

MS. MOORE: I thank you for your reactions today. I would urge you to continue to give them, because there are not simple problems, and also to tell you a comment made by the director of "Turning to Dust" from the Canadian television series, "The Nature of Things." It was filmed in both countries on this preservation issue. The director is someone who works in a lot of environmental areas, and he said to us that this is the most fragmented group that he's ever worked with involved in a common cause. This impression did not come out in the film, fortunately.

From my perspective, there's a lot of potential support from the public on preservation of our collections. I think we have to be careful to work together so that we can make the most of that support.

MR. RUNKLE: I want to thank the committee for the preparation of their comments and for stimulating the discussion. I would also like to comment that the role of the Preservation Committee of ARL is extremely important. As we can see, the issues are terribly complex. It's hard to figure out what to do and how to fund what it is that's done. I encourage them to continue to focus their attention and try to help us sort out what our stands should be on some of these issues.

TELECOMMUNICATIONS: THE COALITION FOR NETWORKED INFORMATION

Moderator: Nancy Cline
Chair, ARL Task Force on Telecommunications

I have the responsibility for both chairing the Task Force on Telecommunications and serving as a Steering Committee member for the Coalition for Networked Information. In case you're wondering what all those words mean, in the course of our presentation, we'll try to give you a little bit of a biographical sketch of each of the entities involved in this process.

Joining me on the podium is Jerome Yavarkovsky, director of the New York State Library, also a member of ARL's contingent on the Steering Committee of the Coalition; and Susan Brynteson, from the University of Delaware, who serves in the same capacity. The man who is sandwiched in the middle has a unique set of responsibilities in this; Paul Peters, who I think most of you know is the ARL Senior Program Officer for Technology, is also the Director of the Coalition for Networked Information.

We're all coming into this set of issues from different perspectives. There are some folks who are not up here on the platform who have played instrumental roles in shaping the factors we'll be discussing here this morning. They are the other members of ARL's Task Force on Telecommunications, who are sprinkled throughout the audience and who have promised to ask provocative questions, should the rest of you fail to do so. Our intent is not to put a lot of packaged information in front of you, but to run through the process in which we've been involved, and to give you an understanding of who the key players and what the key elements are at this point in time.

I'd like to take a few moments to give you some background, although I know many of you have heard and seen information from the ARL Task Force on Telecommunications. This is a specific task force charged by the Board last May to study the following issues: the role of research libraries in the development and design of a research network; the opportunities and new directions available to research institutions arising from the development and participation in the national telecommunications network; the implications for current library operations that employ existing network services, if there is a migration by educational institutions and research libraries to a new national research and education network; and, finally, future ARL interactions with other network development organizations (such as EDUCOM's National Telecommunications Task Force; the Federal Coordinating Council on Science, Engineering, and Technology; telecommunication providers and vendors; and other interested groups).

By May 1990, this Task Force was expected to provide guidance and advice to the board concerning what actions could be taken by the Association to contribute to the implementation of an emerging national network that would reflect the need of the research libraries' community. We thought in October 1989 that we had a pretty healthy agenda, and that we could provide consultation for the ARL Board at the May 1990 meeting. However, much like the events in eastern Europe have moved at an incredible pace, so have the events of telecommunications involving research institutions and the exchange of scholarly information moved at an incredible pace. By January, we were faced with some brand new opportunities for ARL's involvement in these issues. So the Task Force found itself in the position of being a little different from other ARL task forces. Rather than coming up with a formal report and a series of formal outputs, we were much more involved as middle agents in the process of change. The changes, as I said before, were taking place at a pretty good rate of speed, cataclysmic, by some standards.

In February, 1990 the ARL Task Force recommended officially to the board that ARL take an active position in terms of the emerging Coalition. At that time, Coalition was being used generally with a small *c*, often referred to as "the" coalition or "a" coalition. It is now only a few months later and we're at the point where it has a formal name, letter head, cards, and so forth. This is not typical of the educational enterprise, at least not from the perspective of public

institutions. So, we found ourselves as a task force recommending to the board that it take a formal level of action by making a commitment that we identified as being in concert with ARL's mission, its vision statement, and the efforts of many of the individual members of the Association.

At the time it was very important to ensure adherence to what the Task Force referred to as key underlying principles because the rate of change was so fast-paced, that not everyone was catching all of the same information at the same time. One of these key underlying principles was that each institution, each individual member of ARL, would enjoy the respect of maintaining its own choice in this process; that ARL would seek a direction, but there would still be latitude for the individual institutions to choose their level of participation in this new direction. Second, we would encourage small collaborative efforts in which a few institutions -- or institutions and other players -- would get together to move toward generally-understood goals, the fuller agenda, and that we would encourage a flexible environment which would accommodate leadership directions without jeopardizing any of the members' positions. In other words, we were not seeking to take a position that would force everybody to do the same thing just because a majority of research libraries wanted it. I think those principles have played out in terms of how the Coalition is organized and how its work will be conducted.

It was clear to those of us who were responsible for putting a program together for National Net '90 that the librarians who went were very much involved in the formulation of the programs there, but also they were seen in very active caucusing efforts -- very active communication in the hallways, and so on. Increasingly, ARL members were being labeled as some of the movers and shakers on the telecommunications scene. That's a very different situation from a few years back when the primary discussion centered around the question: Will there be survival of libraries if computer centers take over?

The key focus of the Net '90 program was the strength of the history of research libraries and the value of that strength in this emerging telecommunications environment. Many commented that the true value of this network was not in getting the pipeline laid, was not in getting the gigabits-per-second outlined, but that the value would be derived from the information resources which could be provided on the network. There were several presentations speaking to this: the NAL project at North Carolina State and the genome project at Johns Hopkins. There were several points at which it was clear that library telecommunications relationships were taking place in small, locally-designed initiatives which promised to be models for much larger contribution.

At Net '90, it was announced that the Coalition for Networked Information was formed by the three organizations: The Association of Research Libraries, CAUSE, and EDUCOM. The Coalition intends to carry out much of its work through a body called a task force. There are now on the street two task force elements: the historical one that goes back to October of 1989 -- that's ARL's Task Force on Telecommunications -- and the new task force that will support the work of the Coalition for Networked Information (CNI). The task force will be comprised of institutions or organizations that pay a membership fee of $5000 annually. For that fee, they are entitled to work very hard to send a contributing labor force into the arena. Hopefully, it will be the senior administrative officer representing the library. But, through the work of the various task force foci, we will come to grips with some of the issues that relate to our key effort of putting information resources up, and making them serviceable and useful on the network.

The most important thing to keep in mind right now is that we've got several identities when we are speaking about the information resources on networks, and it's very often an important factor to know who's wearing which hat during these conversations. Those who are on the ARL Task Force are perhaps faced with the most difficult challenge, because we haven't had that long of a life span to create an identity for ourselves. There are shifting players, and a few of us have had to cross some boundaries. One of our purposes today is to give you a chance to ask questions, try to debug the information that we've put together on this, and make certain that folks who have questions about either the Coalition or the whole gamut of telecommunications and ARL's involvement have the opportunity to put them on the table.

Some of the other members who are on the platform have a few points that I would like to ask them to cover. I think Paul is probably the best prepared to address a few of the legislative

issues and to give us information about an upcoming meeting -- sort of a foundation kick-off meeting of the Coalition for Networked Information -- which is coming up in June. I think that Jerome, from his position, can provide some perspective on the broad approach that ARL needs to take in meeting the research and scholarship needs. I did not say anything about the national network. We've been really working hard with our colleagues in the computing arena, CAUSE and EDUCOM, where they have so many things that are focused on a national level because of the NREN legislation, which is a U.S. federal funding legislative effort. From the ARL perspective, we have taken a very determined stance not to let that creep into our documentation because we have such an international focus to our research and scholarly endeavors.

MR. PETERS: I thought I would use my time to answer the three questions that I've been asked most often the last three days. The first question is: What does this legislation actually contain, and why does the content of the legislation call forth this new organization that we're calling the Coalition?

So I'll start there and characterize the titles of what is most properly called S.1067. A lot of us call it either the Gore bill, because he introduced the predecessor bill last session, which S.1067 superseded, or the NREN bill. The actual title is the National High-Performance Computing Act of 1989.

This bill contains seven titles. The first title charges the Office of the Science Advisor of the President, through the Federal Coordinating Counsel for Science Engineering and Technology, to spend two years to develop a high-performance computing plan for the nation. The second title of the bill is the one that, it's fair to say, EDUCOM, through its networking and telecommunications Task Force, has focused upon. It's the title that speaks to the creation of the National Research and Education Network, which is designed to be a multi-bit-per-second network, that would supersede the Internet and the Arpanet and other nets that you're aware of, by 1996. That's a long, complicated title.

It's important to keep in mind that the technology to implement this multi-billion-bit network does not exist today. So, in addition to creating the network as an administrative management entity, a lot of the money in the network needs to flow to technology providers, because it's difficult today to switch data communication circuits operating in the 45-million bits-per-second range. What we're talking about is that five years from now, we will have a national network that operates at the level of three billion bits-per-second. The reason this is important is because scientific research and education require data communication characteristics that are not modeled by the commercial data communication marketplace, to wit, high band with short duration signals such as large video imaging flowing out of a super computer to a displaced screen to assist a scientist visualize a theory of database. It's a very special kind of requirement where the network has to deliver, in a very short burst, millions and millions of bits of information. So, Title II is designed to make that happen.

Title III is devoted to ensuring that federally-funded database and network services can be accessed over the network; and through those models, other databasing services can be accessed over the network. The National Science Foundation is charged with being the lead agency to make sure that happens.

Title IV calls for expanded research and for super computers. It also charges the National Science Foundation with establishing clearinghouses for research software so that university and industry researchers can find the software they need.

Title V is computer systems, which encourages the development of new super computing technology.

Title VI is basic research and education. It authorizes money for basic research and computer technology and for the education of computer scientists, computational scientists, informational scientists, architects, and electrical engineers.

To give you a sense of the scale of all of this, the legislation calls for money to be spent over a five-year period. This bill has a better chance than ever before, because it represents the coming together of two communities of interest. The Bush administration, through its science programs, is trying to create, through this legislation, a national infrastructure for what it calls the

Grand Challenge of Science in the 1990s: the Supercollider Project, the Hubble telescope, and a couple of others. There are legislators who are interested in national competitiveness, so, this legislation is very important for stimulating the marketplace to develop in technology. That's a very important contemporary confluence of interest.

The Coalition is in this setup; this defines but does not limit the Coalition's work. But just to make it concrete, Title III, on information services, was not getting the attention it required from the people mobilized through EDUCOM, and the Task Force knew that they would never be able to give the information work on that title the attention it deserved. The software part of it, particularly the clearinghouse part of it, was not within the concept of the people who came into the EDUCOM, NTTF, and the education part. There's a piece of that having to do with the re-tooling with the information scientist. There were, thus, at least three titles in the legislation that folks realized, as the prospects for its passage became more likely, they really didn't have a handle on, nor could EDUCOM or CAUSE or ARL by themselves do that work. So they created this new organizational format called the Coalition for Networked Information, which acted through this Task Force to deal with those three titles, and other issues that are similar to the work that needs to be done in those three titles.

There are six strategies we're working on. The first Coalition program strategy will deal with incentives and disincentives. What we mean by this is, the Coalition needs to identify and analyze the complete system of incentives and disincentives, the processes of communication that we're all interested in. And so, the Coalition needs to position itself and do some work on how rewards particularly and properly work in this new environment. There's a program strategy on architectures and infrastructures which deals with service architectures and the ways to make cost-effective inter-operability between systems a reality through this network. There's an information exchange program strategy pertaining to making sure everyone in the Coalition has as much information about projects that people have undertaken in cooperation with others. There's a service and product innovation program strategy through which the Coalition will attempt to stimulate the change agents and risk-takers who want to test and evaluate service and product innovations and who are looking for people who would be willing to work with them.

The fifth program strategy is codes, policies, and practices, which will deal with a broad range of things that need to be done to promote open and reliable access to this kind of information and to ensure full and equitable participation in the communication processes that depend upon these resources. The last element will have to deal with professional and user education, through which the Coalition will propose activities which address the need for the members to have good educational materials to use to help their staffs rise to these new challenges and to reach some of the constituents, or users, in their communities.

So we have to do some more work on defining that. A document will come out that explains what the Steering Committee is looking for in those program strategy areas. And then you'll have an opportunity to exchange your views about those strategies and to determine the program of work for the Coalition so that we can get down to business during the summer and report some real accomplishments at some sort of meeting to be held in the fall.

MR. YAVARKOVSKY: We want the coalition to represent not only ARL's academic libraries, but also the ARL national libraries, independent research libraries, and public research libraries. Also, many academic libraries have local, regional, and state-wide relationships and commitments, that they don't want to abandon and shouldn't have to abandon. On the contrary, they would want to take into account in this venture these consortia for resource sharing that are very important to many of us, and are multi-type library relationships.

Finally, we want to look after the interests of the unaffiliated researchers that many of us support with our collections and services. These are the journalists and authors, historians, medical and social service practitioners, and others who, once again, are outside of the academic realm, but, nevertheless, make significant contributions to the creation and dissemination of new knowledge. We are concerned with existing institutions, like the New York State Library, responsible for the state-wide interlibrary loan system, as well as with emerging networks. The

OLIS system in Ohio comes to mind as a very ambitious project, and an initiative to consider especially as the Coalition proceeds.

These general needs and interests also concern the international relationships that we have, both in the Association, and in our daily work. We work with the British Library Lending Division and with Canadian libraries in sharing research material. As we know, the research enterprise itself is an international enterprise. So, it's with the intention of keeping a very broad perspective on the role of the Coalition that we will be conducting the work of the Steering Committee and the Task Force.

MS. SMITH: The Coalition for Networked Information has a subtitle that, I think, is very important as an explanation to outsiders: to advance scholarship and intellectual productivity. I think that can help others understand what the Coalition's goals are.

I would also like to comment that in the discussion with Paula Kaufman the other day, the question was asked, " Was the NREN bill dealing more with highways and what goes up on the highways?" Paul has described the fact that one of the purposes of NREN will be to connect repositories and to examine the information resources that will be available on them. And certainly ARL has a role in that endeavor. There also would be interest to letting the Coalition look at how this can work together so that the EDUCOM entity and NTFF, which is what networking telecommunications stands for, can reconcentrate its attention and talents on the network, itself, rather than the network information and resource matters.

MS. CLINE: Each of the three member organizations that comprise the Coalition -- that's ARL, CAUSE, and EDUCOM -- designates three members to serve on the Steering Committee. The three of us assembled here are your association's delegates for this initial round. We are setting up membership so that there will be turnover and continuity assured. That is a process that is a result of the executives in our organization working with the other directors. But for ARL, we have two bodies that are carrying your interests and working for ARL's commitment in terms of the broader aspects of the information resources in telecommunications-networked environment. One is the Task Force, which will continue for a period of time until we see which directions that the new Coalition goes off in, and then the other are your Steering Committee representatives who serve to guide and work in a proactive way with the goals and the mission of the Coalition for Networked Information.

MS. VON WAHLDE: I have a little misunderstanding about membership. We joined and I would like to attend this meeting; although it's not clear that I can. Is it up to us to choose how many of us come from an institution? Do you want the library director? Do you want the computer center expert?

MS. CLINE: For the $5000 membership fee for the Task Force of the Coalition, the institution can designate two individuals on the application form. It is hoped that those who are high-placed, power-broker type individuals, who can commit and work from an institutional level on these things, will attend, rather than someone who's involved only with systems development. Individuals should attend who have a broader focus and can take the information back into the institutional context, whether it's a university or a state entity, and play that issue out, work that issue through at high levels, in executive counsels of the different organizations. That is the intent. We don't know, however, how each of the institutions will choose to play out the choice of options. I think the Steering Committee has wrestled very hard with the wording, and Paul got to define the words on it so that it reaches out to that level, that high level of participation.

If you go back to some of the comments yesterday on the session on diversity, understanding those differences and working them to achieve a positive outcome is going to be very important in this computing/telecommunications evolution.

MS. VON WAHLDE: What do the members of EDUCOM and CAUSE get?

MR. PETERS: This is an institutional membership. Although ARL, CAUSE and EDUCOM are governing the Coalition, it's up to the institution to field two people, meaning people do not come to the Task Force meeting with an ARL, CAUSE or EDUCOM badge on.

MS. CLINE: The question was placed before the group earlier: should each institution send three because we're talking about three organizations comprising the Coalition? We thought it was more important that we encourage communications on the home front, and that surely each one could tough out a decision to select two.

UNIDENTIFIED SPEAKER: The exact words read, "the Coalition Task Force will name two individuals: in most cases, their senior administrator for libraries and their senior administrators of information technologies."

MS. TAYLOR: Just to follow up, it could make a difference in terms of response. When your mailing went out, did it go to, in our case, my office and the office of the VP for computing, or did it go to one individual? We need to know when we get these things whether we're expecting to coordinate responses or whether a duplicate went to my colleague in computing.

MR. PETERS: No, it didn't. It went to the ARL director and only to the ARL director, unless that institution had contacted me and asked for a different sort of handling, and only two or three did. In terms of this first mailing, it went to the ARL director on the list. Now, there are, of course, the people on the list who are not ARL members. There I relied on the names that the CAUSE and EDUCOM people gave me.

MS. CLINE: So, if you received your statement from Paul and your agreement at home was that you were going to split the fee with some other part of the organization, you want to take action.

MR. PETERS: The application form asks for three names to be filed: an administrator and two participants. From here forward, the two participants will tell me whether it's one of them or some third party who should be processing the paper work. CAUSE and EDUCOM will be sending out invitations to their memberships, to the rest of the people on their seven or eight hundred-name personnel list. So, there is a possibility, since we don't control those lists, that someone on your campus might be invited to join at a later date, within a month or so.

MR. LEINBACH: Could you tell us the status of the legislation and its prospects for passage?

MS. ADLER: Very briefly, it is the Senate legislation that has gone through markup, and some very positive changes will be made. Although it's come out of the Committee on Commerce on the Senate side, no report has been filed. What Senator Gore and his staff really need is encouragement. As Paul said, the administration is looking at this as a way to address ground challenges, but they also have not given any money in the FY'91 budget to this endeavor. They're also sending a signal. They want ownership in a very different capacity. On the House side, it will not be moving as quickly. The House version needs to be rewritten to accommodate the changes on the Senate side. No additional hearings have been set and the staff have not given any signals as to when they're going to move on the House side. Part of what we may want to think about is encouraging, through mail and through other visits, that the Senate start taking some action on this.

MR. PETERS: We have a list of key legislators that first reached you in a letter sent in mid April, if I recall, that requested letters on LC. Letter writing on this program is still very timely.

MR. WILLIAMS: Paul, you mentioned in the first title of S.1067, the role of the President's science advisor. How deeply aware is he of this program? Will he be at the CNI meeting? How do we expect to work with him -- through the Coalition or members of his staff?

MR. PETERS: That's a good question, and I don't really have an answer. We could ask Prue to come back in to the microphone. I took your question to mean: How aware is he of the Coalition? He is aware of Coalition, but we haven't invited him or anyone else like him to this meeting, because it is very focused on building the Coalition itself.

MS. ADLER: In terms of how aware he is of the NREN legislation, the administration is in support of it. The administration's goal is for the Office of Science and Technology Policy, Dr. Bromley's agency, to organize it. One thing I would emphasize is that, in order to get to the 1995-96 network that is envisioned, the current agency budgets need to go forward. And that is where the administration is causing somewhat of a problem because they have not put the monies in the current budget yet. That is why the letters you do write should say that the appropriations in this current year and next year are critical in order for the research to begin to develop the technology to move this information forward.

MS. CLINE: The NREN legislation is very important, but we also have many institutions and many members who are committed to sustaining their level of involvement and increasing it, sometimes because of stated consortia relationships, sometimes because of other collaborations that are under way. The point of the Coalition is not only to advance legislative matters, but to bring together the key players from the computing environment and from the library information resource management environment, to make the most of what we are able to do in the meantime, as well as to advance legislative and funding packages and other broader issues like that.

MR. PETERS: One of the opportunities available to you through this Coalition is that, if you would like the president of either CAUSE or EDUCOM to interact with someone on your campus, to persuade him or her that this is a worthwhile use of your time, both have made it clear that they're available to do that sort of thing. We know this would have to be handled with some care, but they want this participation to work and I'm sure they'd be willing, if you think it's appropriate to exercise their influence on the computing scene on your campus, to stimulate participation in this activity. I just thought I'd mention that, because that is a Coalition concept.

UNIDENTIFIED SPEAKER: Jerome raised the question of the importance of the interest of non-ARL libraries being somehow represented in their efforts on the Task Force, and the fact that the ALA is in a class by itself, whatever that means. In fact, in order to address the very problem, the ACRL board asked permission to be a member of the Task Force and just recently the CNI has approved that. So the ALA will be represented on the Task Force through ACRL.

MR. BENNETT: There is another resource to bear on this. Many of our institutions have lobbyists who work in Washington, and it seems to me it might be a good idea for us to speak to those individuals to alert them to our concern about this. It might also be a good idea for the Coalition to hold briefing sessions for those people.

MR. PETERS: That's an excellent idea, and I'm sure it's particularly resonant because the Coalition itself will not do any lobbying.

MS. CLINE: One of the things that's come out of the morning, is, there will be a lot of leveraging going on. The executives of these three organizations carrying the shared vision and commitment, the involvement of steering committees within the parent organizations, will be an important set of players. We've tried to provide leeway for everyone to make a choice in terms of how much commitment each wants. There is an increased level of communication. I know some of the individuals who have been involved in setting up the network have said there are folks writing to us that we never dreamed had an interest in these issues. We're discovering that even in our efforts to work with the disciplines and the sub-disciplines, through our scholarly communications, serials, price issues and so on, we have only started to scratch the surface in

terms of some of the interaction that we will have. The same things will play out at home in our individual institutions. In the last three months, in my own contacts, there has been a lot more interest from physicists and mathematicians who work with branch librarians than we have seen for years, because they have been reading about the Coalition, whether it was in the *Chronicle* or somewhere else. The news articles are bubbling up and creating a lot of questions.

We need to close for this session. Paul is in place, and he is our key agent for a lot of these questions and, of course, Duane and other staff members have a relationship to all of this, but don't hesitate to ask questions at this formative time.

MR. WEBSTER: The ARL Task Force on Telecommunications will provide additional information on the NREN and the work of the Coalition as it is addressing the issues. That executive briefing package will be distributed within the next two weeks.

MR. RUNKLE: I would be remiss not to keep you captive for one more minute to make two points. Number one, I'd like to acknowledge and thank the Task Force on Telecommunications, which has shown initiative and leadership in this area and to acknowledge Paul Peters and to say how fortunate we are to have him on the staff of ARL. The second point is that we have moved quickly in these last few months. We did try to check with the membership through the mailing before we moved ahead on this Coalition. We didn't know three or four months ago how very positive the response would be. There were some risks in moving forward. We've been able to accomplish as much as we have, however, partly because of your voting for the membership dues increase last fall. That extra money, is allowing us to do two things: build the operating reserve, which we needed to do, but also, have the staff resources to proceed with these initiatives.

SERIALS PRICES: THE OFFICE OF SCIENTIFIC AND ACADEMIC PUBLISHING

Moderator: Susan Nutter
Chair, ARL Committee on Collection Development

I'm here today in my capacity as chairperson of the Collection Development Committee to demonstrate that immediate and effective organization and action are typical of the organization of research libraries. I was really stunned to realize how quickly ARL's ability in the area of scientific and academic publishing has been demonstrated. I actually had to go to my files and ascertain when, at the Providence meeting, you instructed the ARL board to fund this capability. I might add, in a very strong and powerful voice, that it did take place one year ago. As a direct outcome of that meeting, an ARL office was established with the mission to identify and influence forces affecting the production, dissemination, and use of scholarly and scientific information. The activities of the Office of Scientific and Academic Publishing (OSAP) will build on the results of the ARL serials prices project and the work ongoing in the professions.

Ann Okerson, to my left, joined OSAP as director on February 5th. I'm reminding you that's only three months ago, and she has only begun to carry out that mission with a sense of urgency. She is doing so aggressively, with vision and creativity and insight. The Collection Development Committee is an advisor to OSAP and we're taking the opportunity this morning to describe the activities of OSAP in its first quarter and to show how two library directors have either taken action in response to OSAP initiatives, or have utilized the office's resources. I think you'll be pleased to hear about the wide range of activities already under way. And because there are so many, our format this morning will consist of three presentations followed by a half hour of discussion.

MS. OKERSON: I hung up the OSAP shingle on February 5th, which was three months ago. Last year in Providence, we were using words like "collective" and "cooperative" as the types of actions it would take to influence both value and price of scholarly publications. If I were to thank all the ARL directors and their staffs who have already helped me with serial pricing matters, it would take the entire time I have on the podium. So, I'm going to say a collective "thank you" to everybody, with special mention to Susan Nutter and the Collections Committee. Our work has, however, just begun. Duane Webster has asked you to write letters to your members of Congress. Susan Jurow described to you the successes and failures at OMS. I'm not content with that -- I want your heart and soul. I'm going to review some of the things that we all need to do, absolutely. A couple people will follow to describe actions they have already taken.

The first thing we need to do is to get the ear of faculty and administrators. They are the absolute key to the scholarly publishing enterprise. They control it. They do seventy percent of the writing of scholarly journals. They are the supply and they are a lot of the demand. They have campus influence. They are very busy and it is hard to get their attention, but, it's possible by scheduling retreats, seminars, invitational meetings, or treating them to a day or a half day on scholarly communication issues, on prices, and on how those relate to library needs. Seek their reactions and involve them in dialogs aimed at mutually beneficial outcomes. Librarians need to use the faculty to create information and library policies conducive to scholarly publishing. Working with faculty this way obtains results, as several among you know. Think of OSAP in such "marketing" endeavors: your advertising agency, your speakers' bureau -- whatever you need. We will help you put together programs, get speakers for you, or whatever it takes to keep organized scholarly publishing seminars on campus.

We are making contacts with a number of learned and professional societies and trying to get space on their programs. Those groups so far have included the AAAS, which sponsored a library session in February, 1990, and promises to do so again in 1991. We're targeting the Council of Biology Editors and a couple of medical groups. Also, I have attended several

publishers' meetings as listed in the ARL Activity Report. If your campus faculty is active in any such group, suggest to them a library segment for their annual program and offer to help arrange it.

The second thing we need is information and research. Please do send copies of any serial research projects, overheads you've prepared, slides, whatever, for our files. Consider sending us a visiting program officer or donating some of your in-house time to do research. There are a variety of very interesting topics. For example, we're trying to establish a methodology to calculate cost per page of scholarly publications in various disciplines and in various forms. We need to do research on how to compare prices for materials accessible electronically to those available in paper forms. We need someone to work on ownership matters; what ownership is and what universities have done in regard to intellectual ownership policy for the printed word. Should work be done at public expense and be in the public domain? Also, we really don't know how much corporate takeovers of scholarly journal publications effect the prices of those journals. We need to produce an information kit for societies negotiating journal contracts with outside publishers. We sense a real need in that area, but it will take time and expertise to develop such information. Incidentally, Paul Peters and I have discussed the potential, by the end of the year, to create an electronic bulletin board for an exchange of information very rapidly.

Another area of activity concerns publishers. We are talking with various publishers about general library concerns, but it would help to have specific examples of unacceptable publisher practices. ARL has joined the Association of American Publishers. One reason we joined is because we are a publisher. Another is that we can participate in meetings and know where their publishers are heading with ideas and plans. I'm beginning on May 25th with something called the STM Library Project. STM is an organization of 120 scientific and medical publishers. They want to work cooperatively with libraries. It's not clear to me where that can go, but it's worth a try. I'll be speaking at the next Society for Scholarly Publishing meeting in a month, on the copyright panel, although I'll be addressing changing notions of ownership rather than of copyright law in force, which is the usual style in copyright conversations.

We're also somewhat entwined with the Coalition. I see the Coalition as influencing what may be potentially our salvation: the universities as publishers on a scale which could significantly affect our perceptions of scholarly publishing. I urge those of you who are members of CNI to participate in the task forces that deal with publishing, delivery, and cost, and to consider pilot projects on the network.

Another important area is legal issues. Thank you for your efforts with the Gordon and Breach briefing packet, of which you will hear more later. We have had real results, and this matter does take a great deal of time. Initially, I would have said it was time wasted, except that it has also had some very positive outcomes. It has made scientists much more aware of libraries and has gained attention, which we might not otherwise have had, to journal pricing matters. The Gordon and Breach legal actions have made us much more aware of the legal climate in which libraries live. I also want to thank Bill Moffett for offering the assistance of ACRL in this arena. I will be sending you a supplement to the Gordon and Breach editors' list. At the time I prepared that database, we could only identify about half of the editors by institution, but we are working on the remaining half.

I urge you to read the April 30th, 1990 issue of *Scientist*. It features a very good article on the AAAS meeting in the opinion section. The May 15th issue will have a Gordon and Breach update, and the May 30th, an editorial they asked me to write, suggesting to scientists what they can do to weather the library and information crisis.

Something you may all have seen in the new ARL Newsletter are the projected twenty percent price increases for 1991 scholarly subscriptions, on the average. Half of that amount is really foreign exchange. I would guess currency exchange will be a continuing problem which may become worse over the years. It might be a thought for you to pursue the same scenario at the University of Toronto: a built-in protection for the library budgets for currency fluctuations.

Now, John Vaughn from AAU has asked me if I was going to play the piano: he saw the grand piano in the back. But I am from an old Protestant family who just used to bellow out hymns in church. One of my favorite ones is: "We are living, we are dwelling in a grand and awful time;

in an age o'er ages swelling, but to be living is sublime." I think it's a difficult time, but we can do a great deal with it.

MR. BENNETT: Ann has set the tone of this meeting as a revival meeting, so I step forward as a witness.

MS. TAYLOR: Amen, brother.

MR. BENNETT: Some very good things can be done, and I want to report on one of them.

I've been keeping our provost and the library's Faculty Advisory Committee informed about serial pricing matters, generally. It was in that context that I responded to the Gordon and Breach briefing package. I went through it and found that most of the Johns Hopkins editors listed there were at the medical school, so I sent that information off to my colleague at the Welsh Library. One editor was a member of our Chemistry Department. So I wrote him a stirring letter saying that, in my view, this lawsuit was inimical to the free and open discussions that give life to our enterprise -- that is, to higher education -- and that it would be a good thing for Gordon and Breach to hear from him as an editor. He gave thought to this, talked with his co-editor, and they decided to resign. The day before I left to come here, I received a copy of their letter of resignation as editors of a Gordon and Breach journal. I tell you, brothers and sisters, you can do the same. If you did not write to the Gordon and Breach editors on your campus, please do so.

MS. OKERSON: He's also been very assiduous in this matter. He gave me a letter, although I'm not supposed to tell you who it's from. But I will read short phrases from it. It is a letter written by a very senior editor of a very critical journal: "Dear Martin, I am very, very disturbed. You are doing irrevocable harm. I edit for you. One of my best reviewers has suggested he will not submit any more papers to me. Whatever reward you seek through the courts will not compensate for damages done. And for the first time in twenty-eight years, I'm beginning to feel that my association with Gordon and Breach is hurting my reputation." So that's another response.

MR. HENDRICKSON: I want to give you a little background about the recent meeting in Lawrence, Kansas. The Association of Big Eight Universities (ABEU) is really brand new, although it has had a number of predecessors that date back some twenty-five years. Over those years, the deans of the libraries met together on a regular basis, but had little contact with other groups, including deans of other colleges, CAOs, Affirmative Action Officers, and so forth. Late last year, the Presidents of our universities decided to form ABEU based somewhat on the CIC model. They hired an executive director, Owen Cylke. Some of you might know the name because his brother has worked for a number of years at the Library of Congress. Mr. Cylke's current assignment is to define his own role, and to set an agenda for the next four or five years. We were pleased that he was able to attend our meeting. One of our goals was to convince him to include the libraries in his future agenda. Perhaps I should point out that the library membership of ABEU extends beyond the Big Eight Institutions. The other members are Colorado State University, the University of Arkansas, the University of Wyoming, and Linda Hall Library. Nine of the twelve also belong to ARL.

In 1988 the libraries began working on the serials pricing issue. We first put together an abbreviated unit list of serials that were priced above $200. The list was used by the individual libraries as a guide for cutting subscriptions, for resource sharing, and most importantly, as a public relations and educational tool. In addition, we began compiling serials pricing information for the nine libraries that were then members of our coalition. This information was shared with the CAOs, and it helped convince them that the Lawrence meeting was necessary.

We kept the meeting simple and short, and we never brought up the subject of money. The CAOs very quickly threw their support behind the development of a complete union list of serials for the twelve libraries, they liked the idea of electronic access to table of contents for journals, and they agreed to help finance improved document delivery among the campuses. The librarians were hoping for at least that level of support, but we came away with much more. Two

keys to the success of the meeting were presentations by Ann Okerson and Nancy Eaton. Ann opened the meeting by giving an overview of the current status of scholarly communication. Nancy followed with a brief summary of the impact that electronic publishing has had, and the potential that it offers for the future. It was these two talks that brought the CAOs around to thinking about the more critical issue of intellectual property rights.

The CAOs quickly decided to concentrate their efforts on four topics: 1) The need to restrict the number of citations listed for both job applications and promotion and tenure. 2) The need to investigate the desirability of maintaining campus ownership of at least some publications (they mentioned those that are the result of federal funding). 3) The need for more meetings involving librarians and scholars, particularly those scholars who serve on the editorial boards of scientific journals. 4) The need to bring back to this country a large share of scientific journal publishing.

The CAOs believe the next step in this process is to take the issues I just mentioned and place them on the agenda of the next meeting of the National Association of State Universities and Land Grant Colleges (NASULGC). That meeting will be held in Kansas City later this year. I believe I can speak for all the librarians who attended the Lawrence meeting when I say that we were greatly encouraged by our success. We, in turn, encourage you to set up similar meetings. The chief academic officers can, and will, play a critical role.

MS. NUTTER: We'd like to open this for discussion and hear your comments and suggestions and descriptions of your experiences on your own campuses.

MR. WILLIAMS: NASULGC has a library committee, and Bob Furgason from the University of Nebraska-Lincoln, his boss, is chairman of that library committee. That's a very important point.

MS. BRYNTESON: I'm delighted to see this took place at the NASULGC level, because I thought for some time it would be a value to have ARL participating. When NASULGC met in Denver, it met jointly with ACE, and it was quite a large meeting with several thousand people. And there was a meeting on research libraries. Pat Battin, Jim, and the presidents of the University of New Mexico spoke. I attended because of that, but very few academic librarians were present, very few ARL directors: I don't think there were half a dozen of us. The room for that particular meeting was quite empty compared to other meetings, so it was a disappointment.

MS. NUTTER: Harvard, Brown, and South Carolina have shared letters that they have written to their faculty related to the Gordon and Breach packet. Did any of you have anything to add to this?

MR. MOFFETT: I want to acknowledge the ACRL being prepared to try to extend some of the efforts already made by Don Koepp at Princeton and also by Scott at Johns Hopkins. And I would invite suggestions as to how we might do that.

We're working closely to explore ways to do that. I'd just like to say how grateful I am to Duane and to ARL for routinely inviting an ACRL representative to be a guest at these meetings. Two of my immediate predecessors are members of this group. Two of my immediate successors are not. And quite often, the executive director does come as a guest. I think this is important because there are a number of ways in which ACRL can extend, both through ARL libraries and non-ARL libraries, some of the initiatives that are begun here, and which could not be begun anywhere else. It can be sustained.

MS. EATON: I might just follow-up on the meeting that we're going to have in the fall following the Big Eight meeting. I'm working with the provost's office to invite all the editors of scholarly publications on campus to a working group to continue the kind of dialogue that we have with the academic officers. The reason I'm doing that had to do with Jim Williams' experience at Colorado where he tried to identify all the editors on campus, and they were somewhat suspicious about why he wanted to know. It seems to me, if I can identify them by state, it takes some of that tenure

away from trying to identify those people. The provost and I are going to be inviting them to a meeting of some sort, having to do with scholarly publications.

MS. HOGAN: One of the values of Gordon and Breach editors, if you haven't really looked at it closely and thought about it, is that they say they are, internationally, a peer-review system. You take a look at a number of those journals. Ninety percent of the faculty are from one institution. They are, in fact, not an international peer-review group, but tend to be almost institutional journals already. That has just killed the argument against a couple of the titles that I was having the biggest fights about with certain departments. So, if you hadn't thought about turning it around and using it that way, it is just black and white.

MS. OKERSON: I hadn't turned it around and looked at it that way. But I do remember that one or two of the editorial boards were almost entirely composed of mathematicians from the University of Delaware. So I would just pass that along. Also, one of the chemists from the University of Texas appears on four or five of the Gordon and Breach editorial boards, which made me wonder about that.

MS. BRYNTESON: I have a brand new president, a mathematical associate, as well as a former executive director. So I expect that to be addressed to some extent by him. Also, I'm working with the editor, and I believe he's the chief editor. I believe he's in the process of signing. So, there's progress still to be made.

MS. CHAMBERS: I shared that same information on my campus, and was very grateful to receive it. It was very useful. It was a great service to all of us. My faculty had a much more conservative and cautious reaction, which is what you might expect from my campus. It would be enormously useful to me, and I think to any of them, if any of you felt comfortable enough to share the reactions on your campus. That would be very, very useful. I think they just simply may not know the kind of stand that other people are taking.

MR. WEBSTER: I might also add that we have been in contact with our lawyer concerning our action in relation to the Gordon and Breach situation. He's assured us, as of last Friday, that we, as an organization, have gone as far as we should go, prudently, to call for action amongst the members. So I urge you, in terms of the notion of taking an action, such as exchanging information, that would lead to an appearance of boycott as a result of discussions at an ARL meeting, that you would be very careful in that regard. He feels that the letter we sent out to you was very carefully and appropriately worded; that is, we informed you of something and we expressed interest that you would do something. We were not calling for a boycott. We were not calling for a collective action in terms of subscriptions or taking that to Gordon and Breach. I think we need to keep that in mind, that we don't want to expose you or the association to litigation from Gordon and Breach.

MS. OKERSON: The only other addition to that is that institutions, individually, may pursue whatever course of action seems correct and prudent to them.

MS. NUTTER: I want to add that the Collection Development Committee discussed this issue in some depth, and there is a real concern that the intimidation that we see is being somewhat effective. We argue that you think about the first amendment and do what you think is right.

MR. RUNKLE: I was slow moving on the information, but I did finally call two of the editors on the list that I know, asked them if they were aware of this litigation, and they were not. I sent each of them a package. They called me afterwards and we chatted on the phone. Both expressed their intention to resign their posts with Gordon and Breach. I also distributed the package to the board of the library, and it will be discussed at our meeting next week, my stance on this has been

informational, and not a call to action. My thoughts there are: They can take it where they want it. I think that's a safe approach if anyone's nervous about how to handle it.

MS. OKERSON: One of the things that we rapidly discovered is that -- and I'm sure this applies to editorial boards of many, many journals -- a number of these people don't remember or don't know that they are on the board. I'll just tell you a funny story before I continue that thought. On one of the editor's mastheads, in parentheses behind his name was the statement "Deceased." I thought that was very amusing. But, one of the points we wish to make to our scholars is that their name and their presence on the masthead of any journal or any newspaper or piece of work counts for something. It's just as valuable to the work and to the publisher as it is to them, if not more so. I would discourage people from lending their names and credibility to publications which they're barely aware of.

MR. DUREY: We've had hard times rather longer than you have. Serials costs have been high for a very long time. But, certainly, the country I come from is too small to have any major effect; although we've made reputations. I would just like to say on behalf of your academic colleagues elsewhere, how pleased and grateful we are to you for the very effective and active role you're taking. We're all very grateful to you.

MS. NUTTER: That's good to hear. I might add, on my own campus, we've had some unexpected outcomes, and that Gordon and Breach title editors have taken some strong stands to their own boards and they've spoken up about this issue. The director of our computing center, who is president of an international computer simulation society, moved in his board that they not move to a commercial publisher, which is what they were about to do, and he argued successfully that that was the wrong move, that they could not do that. They are staying with their own publication program.

MS. OKERSON: Another very effective thing that can be done by librarians or anybody on campus is to get your editors to be active, consumer-oriented editors. We received a fax from the University of Michigan from an editorial board member who attended a meeting. Their publisher, I think, was Elsevier, but this could be any publisher. They were concerned at the high cost of the subscription price of their very excellent journal compared to some others in the field. They were also concerned about other things: Why it was taking three to six months for articles to appear when they wanted them quickly? What the publishers were doing vis-a-vis technology? How could they be acting with more alacrity on these various issues? They arranged a meeting, and the publisher's representative and they discussed all these questions. They got some answers and were referred to the head office in Amsterdam. I think those are the right kinds of things to do, to take an active interest in their journal beyond simply the content .

MS. BRYNTESON: I recently had a conversation with the publisher for the ACM, Association for Computing Machinery. The focus of their discussion at a meeting of the Publications Committee was: Why should an organization like that have paper print journals? Why are they not be going into electronic publishing much more than they are? The result of the discussion was that when they analyzed the revenue produced from the journal in relation to the use of that revenue in the program of the organization, the journal's subscriptions to libraries ultimately are paying for the program of the organization. The alternative would be to raise dues or to find some other source of revenues. It was decided at this committee meeting they would stay with paper and they would let the libraries continue to subscribe to paper rather than take the other alternatives. I'm wondering if the office might move toward looking at the percentage of the total revenue of a professional organization: what comes from the publication program in relation to dues and any other sources of revenue. Even the American Library Association depends on its publishing arm to subsidize the program of the organization to a major degree.

BUSINESS MEETING

BUSINESS MEETING

MR. RUNKLE: We will have reports from the four concurrent topic discussions of yesterday afternoon, then there will be reports from three of our committee chairs, and a report from the executive director, a report from me, and then time for any other business or announcements that you might have

FUTURE NEEDS OF AUTOMATED SYSTEMS

MS. TAYLOR: Paula Kaufman and I reported on the activities of a small ad hoc group of ARL directors who were at this meeting to talk about what we could do to influence the development of the ideal on-line information system of the future. We started by talking about library systems, but it quickly became clear that we were really talking about something bigger than that. We then talked about two conclusions the group had come to, which were the following:

1. Influencing vendor behavior or system development within the next three to five years is not realistic. Many libraries are still bringing up or completing existing systems. Some of the present vendors may not be around, while others are clearly already on certain paths and are not going to be diverted in the near future.

2. We must envision an information system for a period in the long-term future, when scholarship may change considerably, rather than just a few years from now.

The small group has come to the conclusion that there is a role for ARL in all this. We need to commission to have a paper written that would really look far ahead into the future, and based on developments occurring today, try to speculate what that would be. The idea is that this paper might then be used to influence vendors and administrations. It would bring in the many viewpoints of all of our constituencies.

Also, ARL might be involved in monitoring the current work that is going on in standards, both technical standards and standards involving bibliographic descriptions, and so on. We are all affected by this in ways that we can't even count, and yet we're not always aware of new developments. We felt that ARL was the logical entity to try to influence the development of standards.

Finally, ARL might take on the traditional clearinghouse role. There are many players in this field now -- Informa and regional consortia are two that come to mind -- but we felt that ARL should play a part in keeping track of what is going on.

There was support for the idea of a "white paper," particularly if it grew out of an in-depth study for the planning process. There is admittedly a lot of fuzziness about what this white paper would exactly look like.

The point was made that if you were going to try to influence vendors, it was going to be important for them to understand that we don't want to talk so much about products as we do about service, because we just don't look at this as something that will tell them what to sell us five or six years from now. Questions were raised about how long the paper would be, and to what extent CNI's responsibilities might overlap with it. Some suggested that this project would be a great candidate for outside funding, and I think this is something that could attract grant money. The clearinghouse idea, however, was met with disinterest because those involved felt that there was too much happening in the field for ARL to keep tabs on it all.

ATTRACTING MINORITIES TO RESEARCH LIBRARIES

MR. WILLIAMS: What we did yesterday was to do a bit of reality checking, and to summarize it, I would say that we did not have a celebration of the diversity among us. We realized that we are all in the same sinking boat regarding affirmative action recruitment. Our bosses think unrealistically that there is some quick solution to affirmative action recruitment; research librarianship is not the most attractive profession in terms of entry level salaries; school librarians and public librarians are probably the first role models in our field for the students that are on our campuses now, and we don't have a professional formal recruiting relationship with those librarians; there are affirmative actions scholarships out there for library schools that, at this point, can't even be given away; library schools with high concentrations of minorities do not historically have strong research librarianship programs; and the average age of library school graduates today is somewhere in the mid-thirties.

Some of us do have minority professional staff members on our staffs who could potentially become library school scholarship recipients, and some of us have very good experience in designing successful affirmative action work study programs, assistantships, and internships; so our discussion yesterday focused on trying to grow our own affirmative action recruits. We felt we should get about the business of designing our own program in close association with a selected group of library schools on a quick promote basis. We really should just grow our own program as an investment in our future. The design of this program could take various forms throughout its life span; and perhaps the initial shape of that program should take the form of an aggressive, professionally designed, forward looking pre-baccalaureate, baccalaureate, and graduate level recruitment effort.

Further, the shape of that program should probably take the form of work study programs, assistantships, internships, and scholarships -- alone or in combination. ARL should, at this point, make a commitment now to put together a working group to hammer out the details of a proposal to the board on the shape, the kind, and the content of an ARL affirmative action recruitment program.

The question for this body here today is: Is there any compelling reason why we should not get on with the business of putting together this proposal before the board?

THE ROLE OF RESEARCH LIBRARIES IN INTERNATIONAL LIBRARIANSHIP

MS. SHARROW: Our discussion group focused on the future and format of IFLA, the benefits and drawbacks of IFLA, other international library groups, library education as it pertains to international librarianship, and, finally, what we can do as ARL directors to make a difference for emerging nations and their research library resources and collections. We concluded the following: there is a need to become more aware of what is happening in foreign libraries, especially in Western Europe and the Orient, for the purpose of standardizing technology and telecommunications; there is an opportunity and an avenue for ARL directors to be more involved in IFLA committees; and, finally, we need a regular column in the ARL newsletter on international librarianship to keep us better informed. We drew the conclusion that we would like to meet again in formal discussion group settings from time to time at these meetings to continue our conversations.

GLOBAL INFORMATION RESOURCES

MS. GREGOR: We looked at the state of foreign acquisitions in research libraries. Our context was the generally perceived reduction in foreign purchases as a result of our libraries' loss in purchasing power and some shift in our collection goals from acquisition to access. Our goal was to understand and improve the scholar's access to global information. Our questions were: Is

there consensus that there is a problem in the reduction of our foreign acquisitions? Is there consensus that ARL should try to address the problem; and, if so, what should ARL do?

Bill Sittig, director of LC's collections policy office, indicated that LC was not a savior in this area. Overall, LC's foreign acquisitions are down, and foreign materials tend to go into the arrearages and to receive minimal level cataloging. At Congressional behest, LC is evaluating its Japanese collections by subject and that evaluation may form the basis of cooperative findings agreements with other libraries interested in Japanese finance.

The ensuing discussion indicated that there is a consensus on the problem, but the discussion was most interesting for its range and diversity. The solution must be more than spending a few more dollars for a few more books. ARL could play a role in developing a needs assessment. What is it that our scholars need in a global information arena? We could look at existing exchange agreements to evaluate what our current coverage is and perhaps make some changes to extend it. ARL could also provide some leadership by exploring possibilities of collaborating with foreign libraries and other agencies to improve access to their catalogs and to databases, and by helping set priorities for actions in this area.

Mr. Runkle thanked the presenters and indicated that the board would review the various suggestions that were made and talk about ways of pursuing some of these subjects at its meeting on the following day. Mr. Runkle then introduced committee reports.

STATISTICS COMMITTEE

MR. SHAUGHNESSY: The report on the 1988-89 supplementary statistics is in your member packets, and if you haven't read that report, I urge that you do so.

We are trying to follow-up on the advice that Martin gave us at the Providence meetings -- that we should begin to take a more realistic approach with the statistics by including a wide variety of resources and materials to make up our selections. These supplementary statistics represent an attempt on our part to do that, through manuscripts, computer tapes, and audio visual materials.

The three questions concerning government documents will move from the supplementary form to the regular form. The form will be asking for documents, monograph documents, serial documents, and microform documents. Be ready for that and don't consider the supplementary statistics as a throw away.

We are still at work on access measures. We considered a good report a few days ago from Beth Shapiro on access measures with funds provided by the Mellon Foundation. It is a very slippery concept. We want to get it right. You will hear more about access measures at the fall meeting.

The other problem that we have had is enforcing the deadlines. Believe it or not, we are keeping score on you. In the last two years we sent out four surveys, and only twelve libraries have gotten them in on time. Seventy-three libraries got their questionnaires in from one day to one month late. We can live with that. But twenty-nine of you were one to two months late; three of you were two to three months late; and two of you were three to four months late. Some of you have suggested that we just publish the statistics without the late numbers. We may eventually have to do that, but we feel that leaving out one of the libraries would affect many other libraries. Second, the index we use to determine the eligibility of new association members requires all the data. Third, it is a criterion of membership that you submit your data. It's not an option. You have to do it. ARL staff is really pressured by the late entries, so, please, you must get these statistics in on time.

This summer you will be receiving from ARL an historical compilation of eighty years of statistics. You are going to get them whether you want them or not: eighty years of statistics on six diskettes with documentation on how to use the diskettes. You will get one copy with your membership, and the association is going to sell additional copies for $150 each.

GOVERNMENT POLICIES COMMITTEE

MS. TAYLOR: We spent a considerable amount of time talking about the plans for the re-authorization of The Higher Education Act, in particular Title II-C, which is of great of interest to us. We have appointed a small sub-committee which is going to work on drafting language. There is great pressure from Congress to really re-think this program. They do not want us to come back and say we like everything very much the way it is. They want to hear about some exciting innovative things that could be done. So, a group of us are going to look at the language and see if we can save all the good things, add some new things and, at the same time, come up with something that has a chance of passing. The sub-committee is as follows: Joe Boisse, Jim Wyatt, myself, and Sam Streit (visiting program officer, who has been working on a tenure of a study under Title II-C). The sub-committee welcomes suggestions from other ARL members.

We also discussed the progress of a draft document to provide some guidance for libraries who are beginning to embark on discussions with vendors about licensing agreements. The draft we received was excellent. It did, however, lead us to a discussion about the the whole intellectual property and copyright issue. We recognized that it is desperately important for somebody to begin thinking about this. We were fortunate enough to get a sub-committee to agree to tackle that one. This group is made up of: Paul Gherman, chair; Ellen Hoffmann; and Paula Kaufman. If you have suggestions, we hope you will get in touch with them.

The third item involves a full and frank discussion between U.C. Berkeley and the National Archives and Records Administration on what constitutes federal records. This is a somewhat complex issue and involves faculty on our campuses who may have at some point been involved in federal projects. Are their resulting papers theirs to give or are they federal papers belonging to the National Archives? We will soon be sending you a survey to find out how many of you have items in your collections or in your archives that might very well fall within this net that NARA is attempting to cast.

Finally, we succeeded in coming up with some compromise language on the Government Printing Office Improvement Act of 1990 (H.R. 3849) which was introduced by Congressman Bates. Reprepresentative Bates is attempting to improve the Act relating to the depository program for government information. He has been backed into a corner by the fact that cost sharing is an enormous concern to the library community and raises a lot of red flags. Other members of Congress will not pass anything that simply guarantees universal free access to all on-line data bases. In order to keep this bill from collapsing all together, it was necessary to come up with some compromise language, which might address our interests and also get him off the hook with the people who are concerned about the bottom line. We think we have done that. We will be sending out a mailing with this language to you for your comments.

MANAGEMENT COMMITTEE

MS. EUSTER: The committee on the management of research library resources has a two-part charge: It is an advisory committee to the OMS, and also it is responsible to consider issues relevant to the management of the ARL libraries. At our meeting yesterday we discussed the financial situation and prospects of the OMS. Over the the last two or three years, the OMS has experienced financial instability. This is a result of the decline in outside funding, and a lack of clear financial data, as well as some shifts in accounting procedures. At present, there are several mechanisms in place to deal with this; program budgeting, accrual accounting, and a new pricing structure. With these steps in place, the office should be in a position to bring itself into a situation of financial stability within two years, and the committee is confident that that will be occurring.

We also heard reports about OMS programs, the publications, consulting, and training from Susan Jurow, the new director of the OMS. The statistics committee sent an emissary to us to express concern from membership about the number and variety of surveys from both the ARL and ARL library that they are receiving. It was agreed that the appropriate staff should take a stronger role in coordinating various surveys.

Regarding matters relating to the management of ARL libraries, we discussed what appears to be a ground swell of membership interest in issues loosely described as human resources issues -- those relating to the education, recruitment, retention, and development of professional and support staffs of research libraries. We intend to make this a priority for committee attention in the near future.

We felt that our 1990s agenda of potential ARL programmatic initiatives should fall into four categories: facilities, the need to articulate and develop a leadership role in a technological environment, organizational structure and management style, and planning and operating in an interim environment. The committee will be pursuing these and other issues.

REPORT FROM THE EXECUTIVE DIRECTOR

MR. DUANE WEBSTER: I want to report briefly on ARL's current agenda issues, the process of influence that we have been using, and review the capabilities available to you through the association.

A complete report on our activities was sent out to you in advance of the meeting, and I, as well as the rest of the staff, would welcome any questions you might have about those activities. I would urge you to look at that report, and I welcome your comments and ideas.

In this last year, several items could be identified as the focal point for our efforts. These issues include the leadership roles and responsibilities of the national libraries; communication technology and the process of scholarly communication; serial prices; broad issues of the economics of information and the dynamics of the publishing industry; and federal policy and activities in the preservation arena. Those broad areas were our agenda in 1989 and are likely also to be our focus of activity this next year.

Today at the federal relations update luncheon, Henriette Avram announced that a new effort is underway to gain statutory authority for a new approach to all of the fee-for-service activities that the Library of Congress maintains. And this statutory authority is going to be discussed first with the profession, starting with the discussion that Henriette had with us today. ALA will pick up this issue in the summer, and additional meetings at the Library of Congress will be open to us. It is an area of considerable interest to all of us. As you know, we have been very supportive of the Library of Congress, and, in particular, we have been quite effective in mounting a strong letter-writing campaign in support of the current appropriation request that the Library of Congress has made to Congress. That request sought a twenty-two percent increase in their budget in order to address, among others things, the arrearage problem that exist there. Those letters of support are very important, as we work to influence changes that may be underway in the programs and practices of the Library of Congress. We are in a much stronger position to express our concerns, if we also express support when the library needs it.

The second topic I want to cover is the process of influence that we use at the Association of Research Libraries in order to have an impact on a limited, specific agenda of issues. Clearly, the process of influence that we are best at is one of positive collaborative action where we can build on working with and through your interests, your efforts, and your energy to present points of view and to suggest directions that are needed.

In this last year, we put a lot of time and effort into building alliances with scholarly groups and with national agencies. I think that you can see that from the speakers this morning, two of whom were from the National Humanities Alliance. We have been working very closely within that alliance, within the American Council on Learning Societies (ACLS), and the Association of American Universities (AAU), in order to establish strong solid working relationships and to be prepared to express your points of view to these agencies. The ACLS had a program two weeks ago focused on the topic of research libraries, and they were willing to take our advice and have a research library director on that panel to express some of the profession's points of view. They also invited a significant number of the members to attend and participate in that conference.

In this last year, we formed a new coalition going arm and arm with the computer center directors and the educational technologists on our campuses to look at electronic information

services that will be available to us on the emerging international telecommunications networks and the proposed national research and education network. This new Coalition on Network Information is going to be a topic of discussion at one of tomorrow's town meeting discussions.

The second form of influence that we use is calling upon you to write letters and to get other key people on your campus writing letters to influence agencies and individuals on the national scene to take action that is in our best interest. Recently, you have been called upon to support the Library of Congress budget. We have been asked to support the three different bills for the national research and education network, and you have also been called upon to support or to fend off attacks on the endowments.

Your responses to those matters are absolutely crucial for us in Washington to express influence. If we aren't able to marshall those letters, if we aren't able to get that support from you, we aren't able to walk into congressional offices walk into different associations and tell them that the research libraries are concerned with anything. Without those regular grass roots expressions of concern from key decision-makers on your campuses as represented by you and the people you can connect to, we are very much weakened on the Washington scene. So I want to thank you for doing that, and I want to encourage you to pay attention to those requests. We make very few of them. We try to minimize the number of times that we are coming to you. But when we do, it is frequently a matter of urgency for you to get involved directly.

At the meetings last week at the National Humanities Alliance and the ACLS, the concern within the humanities and arts communities for the attack being made currently on the National Endowment for the Arts was very fundamental. They believe that the attack on the arts is going to extend to an attack on the humanities agencies, and the real intention of the critics that are presumably looking at restrictions is ultimately to do away with these two endowments. If you have not yet written letters concerning the importance of the endowments to your institution, please do that. If the president on your campus, the museum director, or key faculty have not written concerning those endowments, it is important that they do that now. The arts community in particular is under siege, and they are looking for support from other agencies, including the library community.

Another way that we marshall influence and focus attention on issues of importance to research libraries is through a process of analysis and presentation of positions. As you know, the serials study that you funded two years ago has led to a lot of visibility of this issue, and, of course, the creation of the Office of Scientific and Academic Publishing has continued the attention to that set of issues. We are looking to find a way within the association to do more of that sort of analysis and presentation. In line with the notion that we need more ability to articulate positions, we established with the concurrence and support of the board and the executive committee, a new office in the association called the Office of Research and Development. This office is going to serve as both a way of consolidating all of our separately funded projects, and a way of energizing our research agenda, and I have asked Jeff Gardner to pick up the mantle of this new office and provide leadership into finding exactly how it will work and what are we are doing. I wonder if Jeff might comment a bit about what he sees in store for the new office of research and development.

MR. GARDNER: We heard Merrily Taylor talking about opportunities for funding, but actually three out of four of the current topic sessions have, it seems to me, some very strong ideas for funding. There were three things that I might mention briefly. One is the whole area of access to foreign materials, and I think that is an area that was discussed at some length in the collection development committee and the board, and I expect after that discussion there will be a major effort in that arena. Second, we will be working with Ann Okerson on developing a procedure that we think will involve some of the member libraries in developing and maintaining a cost impact index for serials in a variety of disciplines. The third area, and one that I want to focus on, is the visiting program officer program. We have had seven or eight people working with us over the last year in a variety of ways, projects, and lengths of times. I think we want to develop a new agenda of issues and concerns to provide opportunities for your staff to work with us and, at the same time, extend our staff capabilities.

We will be mailing to you shortly a list of those issues, and ask for your help in locating staff who might work with us, either on-site in Washington or by periodically visiting the office. In some instances, we are able to get funding support for these projects, and in others we are not. We would like to have staff who are technical specialists in the areas we are interested in and staff who have some kind of sabbatical or some type of leave available to them.

MR. WEBSTER: We are trying to extend our influence and improve our efforts in the communication arena. As you know, we have talked a bit about strengthening our communications capability by adding additional staff. I hope you noticed, as you came to the meeting today, that there is a new format for the ARL newsletter, and, in fact, a new title. It is called *ARL: A Bimonthly Newsletter of Research Library Issues and Actions*.

Its frequency has been increased, coming out every other month, instead of five times a year. The scope of the newsletter has changed as well. We want to focus on the issues of concern to research libraries and use this newsletter as a vehicle for articulating the ARL agenda on an ongoing basis. We hope to ensure a broad-based understanding of that agenda both amongst members and external constituencies, so that people within, for example, the National Humanities Alliance, the AAAS, and the ACLS will be getting news in a regular fashion on the issues and actions of interest to you.

We are looking for ways of understanding where you stand, and where you want us to express your points of view on the issues of our time. As a result of this need to clarify what the positions of ARL directors might be on any set of issues, particularly as these issues are emerging, the board of directors has encouraged us to put together a new format for the fall meeting. As you know, typically the spring meeting for ARL is a programmatic meeting, and the fall meeting is typically a working session. What they have asked us to do is to focus in the fall session on emerging issues of importance to research libraries and to orchestra a discussion around those issues that would help define the ARL agenda. This year will be the first what we are calling "ARL strategy forums," which will be the new format for discussion at the fall meetings.

I want to comment briefly on the capabilities available to you through ARL. As you know, the framework capabilities established two years ago allow us to structure our activities to allocate our limited resources and communicate to you exactly what we are doing and how we are doing it. The activity report is organized that way. There is an organization chart that describes how the staff are employed in relation to those capabilities. These last few months, we have established several new capabilities: The research and development capability that Jeff mentioned, the Office of Scientific and Academic Publishing, which is headed by Ann Okerson; and the Coalition for Networked Information.

I would like to ask for a report from Susan Jurow, who is the head of one of our most active and well-known capabilities, the Office of Management Services.

MS. JUROW: In terms of our new organization structure, the three primary programs that we are responsible for at OMS are training, publication, and consulting. I would like to briefly give you a report about where we are in those three areas.

In terms of training you will see a letter from me that is a plea for the nomination of a new program officer for training. We are looking for someone who likes restaurant food, knows how to pack a suitcase, and is interested in airport architecture. What we would be really interested in is someone who fits into that sort of junior professional mold, who might be interested in taking a little bit of time out of the traditional career progression to do something a little bit different that will give him or her a tremendous opportunity to look at the management of academic and research libraries.

In the publications area, as we know, we have a new program officer for information services, Brigid Welch, who has been with us since the beginning of the year, and has really already made a very strong difference in terms of streamlining our operations and identifying new directions for that set of capabilities. We are looking in that area for two kinds of new products over the next year or two; one, a new publication series that we are tentatively thinking about as innovation in library management. We want to know about risk-takers. We want to know about

some of the things we have tried, because we really feel that we can learn a lot, not only from the things that we have tried or the successes that we see written up, but some of those failures that we could learn from in developing new programs and services, and new ways of managing ourselves.

We are also looking to put together a new publication in some electronic format, so that we can experiment with a model to see how that kind of activity might enhance communication within our field.

In the area of consulting, we are maintaining a lot of the programs that have been built over time, providing services in the area of self-studies, public services, collection development, as well as the strategic planning and leadership development programs. We are looking at developing programs as we fill out our staff a little bit more, in the area of services: quality of service, output measures, and organizational structure. We are very interested in moving beyond some of the things that we have done in the past in the area of organizational behavior, which very much is the focus of the training program.

MR. WEBSTER: There are other finely polished capabilities that are maintained on your behalf at ARL. Federal relations is a very active one, as those of you know who attended the federal relations update. It is headed by Prue Adler, and come June, I am going to be promoting Prue to Assistant Executive Director in recognition of her performance and to acknowledge her position within the Washington community and the importance of having a senior level ARL executive representing your interests on the Washington scene.

We deeply regret losing Nicky Daval to the theater, but we do have Sarah Pritchard, who has joined us to head up the statistics capability. We are very please to have Sarah with us, and her presence here is a direct result of the nomination of one of the ARL directors, who had the good fortune of having Sarah serve as an intern at Princeton.

Finally, I want to say that financially ARL completed 1989 with a small ending balance of $1,500, after total expenditures of $1.6 million. Very close. Of all those revenues, fifty-seven percent came from dues; thirty-two percent came from sales and cost recovery; and eleven percent came from grants. The audited financial report will be published in the minutes for this meeting, as is normally done.

In closing, I want to comment on the great sense of loss we experienced recently with the death of Dr. Stephen McCarthy. As you know, Dr. McCarthy was the first full-time paid executive director of the Association, and he really moved ARL from an informal discussion club to a position of leadership and action and influence on the national scene. He was my mentor, and he meant a lot to me and certainly greatly influenced my limited success over the years. In celebration of his many contributions to ARL, ARL and Cornell University Libraries will be sponsoring a memorial service for Dr. McCarthy, probably at the end of the fall 1990 meeting.

We are in the middle of an exciting active period. The fast pace that we are experiencing is the result of the changes taking place in the environment that we are a part of. We believe that it is your desire to have a dynamic and active program here at ARL. I must admit it is really a treat for me to work with such a talented group of staff. This roller coaster of activity we have been on the last several months has really been quite stimulating, challenging, and rewarding. But your interests, your support, your willingness to get involved, your willingness to express your points of view, your energy, and your leadership are clearly what inspire us to do what we are doing. And, as always, I thank you for that.

MR. RUNKLE: The next and almost last item on the agenda is a report from me. As you know, the Board met on Tuesday. The executive committee met Monday night.

We reviewed the financial reports, and the organization is basically sound. We reviewed the report of the first quarter of this year, and it is right on target. There has been some concern about OMS in the past, but seems to be on track right now. Next year at this time, we will look at that very closely again. We also reviewed and approved the report of the October committee on membership criteria. That report now stands as the policy and procedure for considering new members.

We had a visit from Charles Churchwell, who is vice-chair of the board of the Council on Library Resources and also a member of the search committee for the president. As some of you know, Jim Haas has resigned, and the search committee is looking for a new president. They hope to make a recommendation to the board for its consideration by next October.

He asked to come and talk with the ARL board to get our ideas about the future of the council, what directions it should be taking, and what it should be looking for in a new director. Over the next few months, the search committee is planning to make arrangements to talk with individuals in groups in higher education and in the foundation community. He mentioned specifically presidents and provosts of universities, librarians, and officials of foundations. We had a very candid discussion and among the things that were discussed was whether or not the council should continue. He said that the board itself had discussed that. Although we didn't take a vote, I think we concluded that it should continue; and that one of its key roles, a role it has played in the past, is to encourage cutting edge research in areas that touch on our work. They are very interested in hearing from us by letter or in person.

MS. VON WAHLDE: I was troubled by the fact that there was little information in their letter about a search. In other words, no effort was made to say they were looking for women or minorities, and no effort was made to say that this would be advertised. I did not know how the search would be conducted, and I thought it looked without that information like it was going to be too much of an old boy search, and that bothered me. I intend to write and suggest some names to him, but I don't know whether I should raise those issues in the letter that I send to him, or whether there are other ways in which we can have some communication about that search.

MR. RUNKLE: The only thing he said about it was that they would be talking with as many individuals as possible, and that committee would make recommendations to the board in the fall. And that's really all he said about the process.

UNIDENTIFIED SPEAKER: Frequently, at meetings of personnel officers of research libraries, there is controversy about the fact that there is not enough advertising, there is not an emphasis on salary range or qualification. And I am troubled that one of our major foundations presents that kind of impression.

MR. RUNKLE: Yes. I don't know if there is some formal action we should take on this. I think certainly anybody should feel free to write. I encourage you to write, and, specifically, to mention this point.

MS. TAYLOR: I had nominated someone, and they thanked me for the nomination, and then, more or less, said they didn't plan to do anything for quite some time yet. I got the sense that they weren't even ready to begin a search, but maybe when they were, they would go through all the proper steps, but now they were just doing some preliminary scouting.

MR. LEINBACH: I would urge that the board consider tomorrow whether an official letter should be written expressing some of those concerns that Barbara has. I reacted to that letter in somewhat the same way. I thought it was very vague about how it was going to be conducted, and I think we should call for an open search and advertisements and efforts to recruit broadly in the profession.

MR. RUNKLE: It has been handled awkwardly, and Charles admitted to that, and said they were trying to back up and get some of the things out of the way.

MR. WEBSTER: Charles said two things that I thought were really important. He's convinced the committee that a librarian should be in that post. They are going to look at the foundation field, and they are going to look at higher education, but he believes that that position is best filled at this point in its development by a librarian, and a librarian who is committed to research librarianship.

The second point that was very loud and clear in his comments to us is that the CLR board sees this constituency as a primary constituency. It is looking for an expression of interest, and some directions and advice from this group. If ARL Directors want to influence what that group is going to do, you should send an outpouring of letters expressing your expectation from the process, qualifications that you expect to see that person expressing, and names. I think it is very, very crucial that there is an outpouring of response to this invitation Charles made. He met with the board this week, because the first meeting of the search committee was last Friday, and they didn't want to wait until the fall meeting in order to contact us. I believe that they want to be in a position of making the final recommendation to the board at the November meeting.

MR. RUNKLE: They would like to have someone in place by the first of next year.

I think among interesting points that came out in our discussion was a concern that was expressed about the governance of the Council and provisions for rotation on the board. Charles said the board is reactive, rather than a pro-active, and the president of the Council, who is also a member of the board, very much sets the agenda and makes proposals and the board reacts to those proposals. That is the past pattern, and he didn't indicate that there would be any change in the way that board operates. I thought the Council did have some endowment, but Charles said it doesn't. So when we talk about the characteristics of the president, Charles emphasized the requirement that the person be able to raise money, that if the person is not already experienced in the foundation world, he or she would have to learn to function in that world, and he or she is responsible for raising the money, although the board is there to help.

A couple of other characteristics that we mentioned: The person needs to be able to function in the new world of technology and electronic information, but at the same time be comfortable with the traditional print formats. The person should recognize and be able to deal with the inevitable changes that we are experiencing in our libraries, and to think on a broader scale about library resources. I do urge you to write, talking about the importance of the Council, what you think his importance is, and discussing the qualifications of the new president.

The meeting is adjourned.

APPENDICES

APPENDIX A

Report on Association Activities

October 1989 - May 1990

Summary

In the past six months, several major efforts have come to fruition within the Association. The Office of Scientific and Academic Publishing and the Coalition for Networked Information have been established, and have been the focus of intense activity and collaboration with other organizations. Three new senior staff members have been hired, and the Office of Research and Development has been created.

Highlights of ARL program activities since the October membership meeting include:

- 1988-89 *ARL Statistics* and 1989 *ARL Annual Salary Survey* were published, p. 3
- ARL newsletter redesigned, p. 4
- Successful October ARL Membership meeting in Washington, DC, p. 4
- ARL Planning Process moved to conclusion with adoption of new mission statement, p. 5
- Office of Management Services introduced Resource Management Institute, p. 8
- ARL an active participant in congressional reauthorization of the Paperwork Reduction Act, p. 10
- ARL provides testimony in support of LC FY91 budget request, p. 10
- ARL Task Force on Telecommunications provides leadership, p. 11
- ARL co-sponsored, with CAUSE and EDUCOM, the National Net '90 meeting, p. 11
- 1989 *Preservation Statistics* to be published, p. 12
- The Office of Scientific and Academic Publishing launched, p. 13
- 1989 financial review and 1990 budget, p. 15
- New ARL staff and internal restructuring, p. 15
- Office automation improvements at ARL, p. 17

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- Contractor selected for National Register of Microform Masters (NRMM) Recon Project, p. 18
- NEH grant in support of preservation planning for research libraries, p. 18
- Two grants from H. W. Wilson foundation, related to preservation and Title II-C, p. 18-19
- Visiting Program Officers working on ARL projects, p. 18-19
- ARL, CAUSE, and EDUCOM form the Coalition for Networked Information, p. 20

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I. Statistics Capability

The statistics capability is organized around collecting and distributing quantifiable information describing the characteristics of research libraries. This capability includes operation of the ARL Statistics Committee.

ARL Statistics. The 1988-89 *ARL Statistics* were published and sent to members and subscribers in February. A report on the results from the supplementary questionnaire, including questions on nonbook formats, government documents, and online catalog records, will be distributed to the membership in May, and will form the basis of proposals to modify the regular statistics questionnaire. The report on library expenditures as a percentage of university education and general expenditures was distributed in March.

Salary Survey. Most ARL university library members have taken advantage of the option of reporting their data in machine-readable form, which greatly assisted in the process of compiling and editing. The 1989 *ARL Salary Survey* was distributed in February; unfortunately, an inadvertent programming error was not detected and several tables were incorrectly calculated. A revised edition of the *Survey* was printed and distributed in March.

Preservation Statistics. A survey requesting the 1988-89 data was distributed in July, and analysis has been proceeding steadily. The 1988-89 ARL Preservation Statistics are projected to be published in May; some preliminary findings are discussed on p. 12.

Future Directions. The Committee on ARL Statistics has been monitoring several projects as a result of the grant from the Mellon Foundation, discussed on page 17. These include a review of possible performance/access measures for incoporation in the ARL statistics, and an evaluation of the data used to compile "library expenditures as a percentage of university education and general expenditures." Progress has been made on compiling machine-readable versions of ARL historical data (1907/8 to 1987/88), historical data for law and medical school libraries, and annual data for ARL and law/medical library statistics. An announcement will be made in May as to the availability of these products. During 1990, the committee will be investigating the development of "compiled" software that will incorporate forms for entering individual library data together with software, instructions and automatic verification all on a single disk, with the hope of achieving greater efficiency and accuracy in the gathering of statistics.

II. Communications Capability

The communications capability is designed to apprise ARL members of current developments of importance to research libraries, inform the library profession of ARL positions on issues of importance to research libraries, influence policy and decision-makers within higher education and other areas related to research and scholarship, and educate academic communities concerning issues related to research libraries. Within this capability is the coordination of ongoing efforts across all program areas to maintain and extend ARL's relationships with other organizations in the scholarly community.

Newsletter. Issues 148 and 149 of the *ARL Newsletter* were published in December and March. The newsletter was then redesigned and renamed, and will appear starting in May as *ARL: A Bimonthly Newsletter of Research Libraries Issues and Actions.* The editorial scope of the newsletter is to be broadened, making it a vehicle for key staff within all research libraries to learn about important issues and developments. It will be a platform for the Association to communicate positions on issues, report news of ARL activities and actions of other agencies, especially member libraries.

Minutes of the Meeting. The minutes of the May and October 1989 meetings are being edited. Staff changes within ARL caused some unexpected delay in this area, but the May 1989 proceedings are scheduled to be published in May 1990.

Relations with the press. ARL positions and policies on selected issues, including serials pricing, government information policies, and the National Research and Education Network, have been highlighted in national newspapers and library and information science journals. Press coverage includes the *New York Times, Los Angeles Times, American Libraries, Library Journal, The Scientist, Science, Federal Data Report, Federal Computer Week, Congressional Record, New York Law Journal,* and *PC Computing.* Members are requested to alert ARL staff to press reports in local papers.

Relations with the scholarly community. Extensive collaboration has occurred in connection with the establishment of the Office of Scientific and Academic Publishing, and the Coalition for Networked Information, as documented further under those headings. Other activities during this period included ongoing relationships with the National Humanities Alliance, the American Council of Learned Societies and the American Association of Universities, and meetings with the American Association for the Advancement of Science (AAAS), Institute of Electrical and Electronics Engineers (IEEE), and the American Institute of Physics (AIP).

III. ARL Membership Meetings

The ARL membership meeting capability is designed to develop programs on topics of interest to ARL membership, schedule and manage meetings and activities, coordinate on-site local arrangements, and evaluate the success of these meetings. The May meeting emphasizes a topical program, coordinated by the ARL President-elect; the October meeting focuses on finances, elections and planning.

October 1989. The 115th ARL Membership Meeting was held in Bethesda, Maryland, October 18-20, 1989, and attended by representatives from 105 institutions. The program focused on the three

U.S. national libraries and how they address a number of issues, including: new roles or services envisioned for the institutions; access by the U.S. research community to foreign information products and services; dissemination of U.S. government information; and licensing as a mechanism to control secondary uses of information products or services developed by these libraries. A new feature of the meeting was an optional luncheon session sponsored by the Government Policies Committee providing an update on a series of federal relations issues; this will be repeated at the May 1990 meeting and may become a regular event.

May 1990. The 116th ARL Membership Meeting, hosted by Tulane University, will be held in New Orleans, May 10-12, 1990. The program for the meeting will be "Higher Education Reform in a Culturally Diverse Environmnent," with speakers from several disciplines in higher education addressing changes in educational philosophy and the curriculum, changes in society and the impact of demographic and cultural trends on higher education, and changes in public policy and the role of higher education in national economic well-being in a global marketplace.

IV. Governance

The capability for governance of the Association is intended to represent prudently the interests of ARL members in directing the business of the Association. The governing body is the ARL Board of Directors. The functions of the Board include: to establish operating policies, budgets, and fiscal controls; to approve long-range plans; to modify or clarify the ARL mission and continuing objectives; to monitor performance and the succession of the Executive Director; and to represent ARL to the community. The staff role in this capability is to provide information to the Board adequate to fulfill its responsibilities in a knowledgeable and expeditious manner. The Board establishes several committees to help achieve effective governance of the Association.

Membership Committee on Non-University Libraries. The final report was presented to the Board at the February 1990 Board meeting and action was deferred to the May 1990 meeting.

The ARL Planning Process. A positive reception was generated from the ARL membership concerning reports of the Task Force on Review of the Five Year Plan and the Task Force on Financial Strategies. The ARL Membership adopted a new mission statement and a list of guiding principles for long-term financial management. At its February 1990 meeting, the Board also reviewed ARL continuing objectives and agreed to the addition of new objectives in technology and in collections development. These objectives have been drafted and will be presented to the Board for final approval by July with subsequent distribution to membership by the end of the summer.

Status reports on standing committee activities follow:

Committee on Government Policies:
Chair, Merrily Taylor; Staff, Prue Adler
1990 Agenda of issues: U.S. government information policies, reauthorization of HEA, and library licensing of databases.

Committee on the Management of Research Library Resources:
Chair, Sul Lee; Staff, Susan Jurow
1990 Agenda of issues: design of a strategy for future office services, review of training needs of research libraries, and consideration of library staffing initiatives.

Committee on ARL Statistics:

Chair, Tom Shaughnessy; Staff, Sarah Pritchard

1990 Agenda of issues: collecting and displaying comparable data on government documents collections, guidelines for dealing with material in shared storage facilities, developing access measures, and compiling tailored software for data collection.

ARL Committee on Bibliographic Control:

Chair, Dorothy Gregor; staff, Jutta Reed-Scott

1990 Agenda of issues: supporting and monitoring the efforts of the Library of Congress to address issues in the area of bibliographic control; completion of guidelines for bibliographic records for preservation microfilm masters (serials); and monitoring the National Coordinated Cataloging Project.

ARL Committee on Collection Development:

Chair, Susan Nutter; Staff, Jeffrey Gardner, Sarah Pritchard

1990 Agenda of issues; follow up on serials prices project, operation of the NCIP, ARL role in the issue of foreign acquisitions, and strategy for examination of the large question of the future of scholarly communication.

ARL Committee on Preservation of Research Library Materials:

Chair, Carole Moore; staff, Jutta Reed-Scott

1990 Agenda of issues: promoting publisher use of permanent paper; supporting and advancing the development of a North American strategy for preservation; analysis of 1988-89 preservation statistics; development of descriptive models for varying levels of preservation program development; and continuation of retrospective conversion of reports in the National Register of Microform Master (NRMM).

V. Management Services (Office of Management Services (OMS))

This capability encompasses the provision of consulting, training and publishing services on the management of human and material resources in libraries. These activities are carried out through the Office of Management Services, including the Academic Library Program, the Systems and Procedures Exchange Center, and the training and staff development program. The Committee on the Management of Research Library Resources oversees and advises on the work of OMS, assists in the development and evaluation of programs, and recommends OMS policy and priorities.

A. **ACADEMIC LIBRARY PROGRAM :** Activities related to conducting institutional studies and consultations at ARL member libraries. During this period, several projects were in various stages of operation:

Preservation Planning Program Studies: University of Florida, National Agricultural Library, and the Washington Library Consortium. The University of Southern California completed the program, and a report has been published.

Public Services Studies: University of Pittsburgh, SUNY Buffalo, Howard University, and World Bank/International Monetary Fund Joint Library.

Collection Analysis Project: Wake Forest University

Leadership Development and Strategic Planning Programs: University of Cincinnati, Purdue University, Kent State University, Iowa College and Research Libraries, Columbia University Computing Center, New York Public Library, University of Arizona Health Sciences Library, and Michigan State University.

Organizational Diagnosis: University of Toronto, University of Maine, and Oklahoma State University

Special Consultation in Collection Management: SUNY Buffalo

B. **SYSTEMS AND PROCEDURES EXCHANGE CENTER:** Gathers, analyzes and distributes information on contemporary management techniques, conducts surveys and analytical reviews, and answers inquiries.

Quick-SPEC Surveys Completed. Three Quick-SPEC surveys were completed on the following topics: (1) Collection Development Reporting Relationships; (2) Hypertext Systems/Standards; and, (3) Support Staff Salaries/Vacation Days/Holidays.

Quick-SPEC Surveys Planned. One Quick-SPEC survey is planned on Evaluation of Collection Development Responsibilities.

SPEC Kits Completed. The following SPEC Kits have been completed: Fee-Based Services in ARL Libraries; Strategic Plans in ARL Libraries; Travel Policies in ARL Libraries; and, Preservation Organization and Staffing in ARL Libraries.

Upcoming SPEC Kits. Affirmative Action Policies and Practices; Minority Recruitment Policies and Practices; Cultural Diversity Programs in ARL Libraries; Audiovisual Collection Development Policies; Circulation Policies in ARL Libraries; and, CD-ROM in ARL Libraries.

Automation Inventory. The 1989 *Automation Inventory of Research Libraries* will be published in June of 1990.

C. **TRAINING AND STAFF DEVELOPMENT PROGRAM:** A comprehensive program of organizational and individual training and consulting to help libraries find better ways of developing their human resources.

During this period, the following training events were conducted:

Basic Management Skills Institutes

October 3-6, 1989, Baltimore, MD
October 21-24, 1989, Washington, DC (for Depository Librarians)
January 26-26, 1990, Library of Congress Intern Program
March 3-9, 1990, Brigham Young University
March 19-21, 1990, New York Public Library

Advanced Management Skills Institute

October 23-27, 1989, U.S. Army Corps of Engineers
October 29-31, 1989, Denver, CO
February 12-17, 1990, Emory University

Creativity to Innovation Workshops

November 8-10, 1989, New Orleans, LA
March 19-21, 1990, Columbia University
April 4-6, 1990, San Francisco, CA

Resource Management Institute

February 13-16, 1990, Washington, DC

Special Focus Workshops

October 11, 1989, Iowa Library Association, Risktaking
November 27-28, 1989, New York Public Library, Strategic Planning
November 28, 1989, Brown University, Supervisory Skills
November 29, 1989, South Jersey Regional Library Cooperative, Creative Problem Solving
December 4-5, 1989 Research Libraries Group, Training the Trainer
December 6-8, 1989 Ontario academic libraries, Creativity and Teambuilding
April 16-18, 1990, Columbia University, Strategic Planning

Scheduled programs remaining in 1990 include:

Basic Management Skills Institutes:

May 15-18, 1990, Seattle, WA
May 15-18, 1990, Cornell University
September 25-28, 1990, Philadelphia, PA

Creativity To Innovation Workshops:

May 30 - June 1, 1990, University of California, Berkeley
June 18-21, 1990, Washington University

Training Skills Institute (formerly Managing the Learning Process)

July 31 - August 3, 1990, Atlanta, GA

Analytical Skills Institute

October 2-5, 1990, Toronto, Ontario

Advanced Management Skills Institute

November 4-10, 1990, Chicago, IL

Inhouse Training Program. Rhonda MacInnes, former OMS Training and Staff Development Program Intern, returned to The National Library of Canada in December, and is now heading that library's training and staff development program. OMS staff continue to assist the National Library in the program's development.

Video Loan Program. Currently, 28 libraries subscribe to the program, and 26 titles are available for loan. The program's goal is to make management videotapes available to libraries inexpensively. As of this date, 42 loans have taken place. OMS staff have developed a quarterly newsletter to be distributed to subscribers free of charge. The newsletter will be used to inform subscribers of newly acquired videos, and to review available videos.

The program is operating on a cost-recovery basis, with income to be used to purchase new videos or additional copies of popular titles. After paying the initial subscription fee ($350 for ARL Members, $410 for non-members) libraries pay $15 per video to cover the cost of postage and handling. Libraries then pay a $100 renewal fee ($120 non-members) each year.

D. ADMINISTRATION

Membership Survey. In November, the OMS sent a survey to ARL directors to determine general levels of interest in existing OMS programs, as well as programs either being developed or considered for development. The results of the survey have been compiled, and the report will be used by the Office and the ARL Committee on the Management of Research Libraries to plan Office priorities for the 1990s.

ARL/OMS ALA Conference Showcase Booth. The theme of the 1990 showcase booth at the ALA Annual Conference is "Encouraging Cultural Diversity in Academic and Research Libraries." Three libraries have been selected to participate in the booth: The University of California Libraries, the University of Michigan Libraries, and Stanford University Libraries.

The showcase will take on a different format this year. Staff from each library will display their programs during one morning and one afternoon slot. The schedule will be included in ALA's EXHIBITS NAVIGATOR, an electronic guide to the exhibit hall.

VI. Federal Relations and Information Policy Development

The federal relations capability is designed to: monitor legislative and governmental activities on matters of concern to research libraries; prepare analysis of and responses to federal information policies; influence federal action on proposals related to research libraries; orchestrate examination of issues touching on the future development of research libraries; and develop ARL positions on federal information policy issues that reflect needs and interests of members. This capability includes the ARL Committee on Government Relations.

Activities during this period advocated the following ARL positions:

Support for: the free expression of ideas; provisions in the Paperwork Reduction Act (PRA) to contain OMB's authority vis-a-vis information dissemination activities of federal agencies and also to bring support for the role of the private sector into balance; legislative changes that would strengthen GPO's role in electronic dissemination of government information; reauthorization of LSCA; a national policy on permanent paper; reconciliation of two important goals of government use of permanent paper for publications of enduring value and increased agency use of recycled paper; legislation to establish the National Research and Education Network; the electronic dissemination of Supreme Court decisions; and reauthorization of the NEA and NEH without substantive changes to the agencies' mandate.

Opposition to: any diminution of the authority of the legislative branch for government information dissemination; an operational role for OMB in information resources management; a Memorandum of Understanding between the National Security Agency and the National Institutes of Standards and Technology to implement the Computer Security Act; any amendments to HEA or LSCA that would require state agency comment on all grant applications; and proposals or legislation to effect licensing or copyright-like restrictions on government information.

Tactics employed included testimony before congressional committees, written responses to committee questions, visits to congresssional staff, ARL staff letters and calls, and reliance upon ARL Visiting Program Officers. ARL activity in conjunction with other organizations has been extensive during this period, particularly in the context of the PRA review.

Defining OMB's and GPO's Roles in Government Information Dissemination. ARL has been an active participant in congressional reauthorization of the Paperwork Reduction Act, and a review of other chapters of Title 44 concerning statutory authority for IRM activities, GPO, and the Depository Library Program. Sandy Peterson, Visiting Program Officer, Yale University, and Prue Adler have collaborated with other library associations (AALL and SLA in particular) and public interest community representatives in participating in congressional committee meetings and commenting on legislation.

Merrily Taylor, University Librarian, Brown University, testified before the Subcommittee on Procurement and Printing concerning legislation to update select chapters of Title 44, in particular, those treating the Government Printing Office. A statement was submitted for the record by AALL, ARL, and SLA before the Senate Governmental Affairs Committee on S. 1742, the Federal Information Resources Management Act of 1989 (PRA).

ARL staff participated in the development of a statement of principles on government information by NCLIS. The proposed principles are based on the Statement of Principles, Government Information in Electronic Format, adopted by the ARL membership.

Information policy activities also included an exchange of information and discussion with Department of Commerce staff on a rewrite of the Department's information dissemination policies. This new statement will have a profound influence over the accessibility of datafiles such as the Electronic Bulletin Board, the National Trade Data Bank, future NTIS activities and more. ARL presented further comments upon the Department of Commerce National Trade Data Base, supporting the proposal and stressing the importance of public access provision of the plan. Finally, staff participated in two GPO activities; selection of pilot sites at 14 depository libraries for the Electronic Bulletin Board (Department of Commerce), and discussions with GPO concerning alternative distribution mechanisms of government information in electronic format to depository libraries.

Library of Congress: A statement on the LC Licensing Agreement was developed by the Committee on Government Policies (October meeting), endorsed by the ARL membership, and adopted by the Board. This statement was widely circulated in Congress and was included in joint ARL/ALA testimony on the FY1991 budget request of the Library of Congress. Joseph Boissé, Librarian, University of California, Santa Barbara, presented testimony on behalf of ARL and ALA.

The Librarian of Congress, James Billington, met with the ARL Board of Directors in February 1990 to discuss the FY 1991 budget request. In addition to these efforts, ARL continues to participate in the Library of Congress Network Advisory Committee (NAC) meetings.

Related activities: Working with other library groups in the development of alternate language for the NREN legislation; joint testimony with ARL and ALA on HR 3131, the House NREN

bill; speaking with federal agency and congressional staff about the pricing of foreign journals; consultation with congressional staff on passage of the permanent paper resolution in the House of Representatives; participation in a Department of Education review of upcoming HEA reauthorization; correspondence with the Supreme Court concerning electronic dissemination of Court opinions; and analysis of part I of the review of HEA Title IIC program by Sam Streit, Assistant University Librarian, Brown University.

VII. Technology and Access

This capability addresses the myriad issues related to the ARL continuing objective of enhancing access to scholarly information resources. The work of four ARL groups is covered by this capability: Telecommunications; Collection Development; Preservation; and Bibliographic Control. The groups examine the opportunities and directions available to research libraries as communication and research patterns evolve within the higher education community. It is important for ARL to understand and help influence this changing pattern of scholarly communication and assist in the framing of the emerging information infrastructure.

Activities included in this capability also represent other program categories, particularly the Office of Scientific and Academic Publishing, the Coalition for Networked Information, and the Office of Research and Development.

Task Force on Telecommunications.

The ARL Task Force on Telecommunications met three times; October, December, and March. A briefing package on the National Research and Education Network has been developed and will be sent to the ARL membership in May. A questionaire concerning resources in member institutions available via the Internet will be sent to ARL members by June. The long-term goal is that this survey will result in an online service detailing information resources available via ARL's. ARL co-sponsored the National Net'90 conference and the Task Force organized and presented two very well attended and informative sessions at this conference.

Task Force member Paul Gherman presented testimony on HR 3131, the House NREN legislation. In addition, the Task Force met with Senate staff and discussed research library interests in network and telecommunications legislation. Language reflecting research library interests was presented to Senate staff and incoporated at mark-up of S. 1067, the National High-Performance Computing Act of 1989. Report language for S. 1067 was also provided.

Finally, Nancy Cline, chair of the ARL Task Force presented to the ARL Board of Directors a proposal to forge a coalition with CAUSE and EDUCOM to explore questions of the organization of, and access to information resources on, the NREN. Several Task Force members including Prue Adler, staff liason, attended both the EDUCOM and CAUSE meetings. Task Force member, James Williams, made a presentation at the CAUSE meeting in November 1989. This proposal resulted in the new Coalition for Networked Information (p. 20)

Related activities: A "Current Topics Session" is scheduled at the May Membership Meeting to respond to proposals from the Ad Hoc Committee on Research Library needs for Automated Information Systems. The session, entitled "Future Library Information Systems: From Reality to Hyper-Reality", will begin with a status report on the proceedings of a small group of ARL directors who have been meeting since the fall of 1988 to discuss the development of the next generation (late

1990s and beyond) of online information systems. A particular concern of this group has been the extent of their commonality of vision, and determining effective strategies for influencing the development of future systems. This session will provide an opportunity to formulate alternative actions for individual ARL directors and to generate ideas about alternative involvements for ARL as a whole.

ARL staff participated in EDUCOM's Telecommunications Task Force (NTTF) discussions of the design and development of a national telecommunications research network and in SWIG (a telecommunications workgroup).

Committee on Collection Development.

In 1989, the Committee completed its review and publication of the *ARL Serial Prices Project Report*, and assisted in the development of a strategy for ARL's continuing efforts in the area of scholarly publishing, including the establishment of the ARL Office of Scientific and Academic Publishing (see section VIII). During 1990, the Committee will consider appropriate advisory approaches and structures for OSAP, while beginning to shift its attention to new areas of interest. Initially, the Committee will be focusing on possible ARL initiatives on issues related to the acquisition of foreign materials; there will be a "current topics" session on this at the May 1990 membership meeting. The Committee will continue to monitor the ongoing operation of the North American Collections Inventory Project (NCIP), and will be considering potential new projects supporting cooperation in the development and maintenance of research collections.

Committee on Preservation of Research Library Materials.

The committee is pursuing a number of initiatives during 1990 to address preservation problems in research libraries. A detailed grant proposal was reviewed and submitted in December to the H.W. Wilson Foundation, to develop descriptive models for preservation program development. In January, the foundation awarded $9,800 to ARL for this project (see p. 20). A paper reviewing mass deacidification processes, prepared by Visiting Program Officer Karen Turko, University of Toronto, is in the final stages of preparation. After the selection of OCLC as the contractor for the retrospective conversion of records for the *National Register of Microform Masters*, work on this project has resumed and the first batch of records were sent in early 1990 (see p. 19).

Preservation Statistics: The report on the 1988-89 survey will be distributed to ARL libraries in May. The report gives a profile of the current level of preservation efforts in ARL libraries. It includes statistical information on the main organizational, functional and fiscal components that characterize preservation programs in research libraries, reflecting the expansion of such programs in ARL libraries. 76 member libraries reported having a preservation administrator, and of those, 46 indicated it was a full-time position. In the aggregate, ARL libraries microfilmed 56,000 volumes in 1988-89. During the same period, total preservation expenditures for ARL libraries exceeded $61 million, a 23.6% increase over 1987-88 expenditures.

Committee on Bibliographic Control.

One central activity has been the preparation of the "Guidelines for Bibliographic Records for Preservation Microform Masters (Serials)", being developed by Visiting Program Officer Crystal Graham, University of California, San Diego (see p. 19 for more information). These have now been completed, will be presented to the Committee in May, and to the ARL Board for final approval in July. A second effort focused on a detailed review of the draft document from the Library of Congress on Cataloging Priorities and Levels of Cataloging. It is expected that the Committee's comments will be incorporated into the final document, to be released shortly by LC. With regard to other LC cataloging activities, the Committee will be reviewing LC's plans for working on the arrearages, and will be issuing a report on the National Coordinated Cataloging Project this spring.

VIII. Office of Scientific and Academic Publishing

The Office of Scientific and Academic Publishing (OSAP) is designed to identify and influence the forces affecting the production, dissemination, and use of scholarly and scientific information. The activities of the new office will build on the results of the ARL serials prices project and on work ongoing in the profession.

Effective February 5th, 1990, Ann Okerson was hired as Director of the new Office of Scientific and Academic Publishing. Activities in the first quarter included:

Development of analytical data:

- Draft proposal to NISO to establish a new standard methodology for cost-per-unit studies of printed scholarly information. Met with NISO Standards Development Committee to respond to feasibility concerns and revised the first draft, suggesting a working committee, consisting of a variety of publishers, scholars, and librarians to develop the standard. It is hoped to begin the work in summer 1990.

- Preliminary work with librarians at the University of Virginia to identify key journal titles in non-sciences disciplines: American history, Art, Religion, Economics, and Political Science. OSAP will use these titles to experiment with a cost-per-unit methodology and begin to establish a database of journal cost information. MIT has offered assistance with core science journals.

- Survey of major subscription agencies to learn about renewal policies and procedures as well as timing. The matter was raised initially by some ARL members affiliated with university presses and their expressions of concern about timing of agency payments to them. Preliminary examination of very thoughtful agency replies gives insights that will be useful to the ARL community in understanding the renewal process.

Publisher and agency connections and relationships:

- Invited to help formulate STM (International Group of Scientific, Technical & Medical Publishers) Library Project, whose aim is to create partnerships between the research library and scientific publishing communities.

- Working with Oxford University Press to establish a Library Advisory Board. Objectives are to exchange views and cooperate on new projects and ventures, particularly in journal and electronic publishing.

- Joining the Association of American Publishers (AAP) to participate in their highly useful conferences and workshops, as well as committees studying developments in copyright and electronic publishing.

- Working meetings with John Wiley and Oxford University presses.

Gordon & Breach lawsuit activities:

- Working with Covington & Burling, attorneys for Dr. Henry Barschall, the AIP, and the APS, in gathering information pertinent to the legal actions.

- Working with Dr. William Jaco, Executive Director of the American Mathematical Society; and Kotin, Crabtree & Strong, AMS attorneys, to supply background material on journal prices and library cancellation practices. At their request, a questionnaire was sent to ARL libraries asking what subscription prices they had paid in 1988 and 1989 for the 3 mathematics journals published by G & B.

- Briefing package of Barschall & AMS articles, plus press coverage of the lawsuits, sent to ARL directors, accompanied by listing of G & B editorial board members in ARL institutions. Directors are using the information to contact and update faculty, as appropriate within the specific university setting.

- Contact with the academic and library press (*The Chronicle of Higher Education, American Libraries, Library Journal, Science,* and *The Scientist*) to keep them informed of actions in this area.

Participation in society and academic meetings:

- Association of American Publishers (AAP)/ Professional and Scholarly Publishing Division, Annual Conference, Washington, DC, February 8-9, 1990, sessions on "Electronic Copying," "The Author-Editor Relationship in Electronic Publishing," and "Journals Publishing in the 1990s."

- American Association for the Advancement of Science (AAAS), Annual Conference, New Orleans, February 15-17, for session on the "Information Crisis in Science Libraries" and "Maintaining Integrity: The Law and Misconduct in Science."

- Association of Learned and Society Publishers (ALPSP), Annual Journals Seminar, London, March 29-30, 1990, for "Society Versus Commercial Publishers;" also discussions with ALPSP and The Library Association regarding serial pricing matters.

- Association of Big Eight Universities (ABEU), meeting of Chief Academic Officers and Library Directors, Lawrence, Kansas, April 11-12, for "Library Cooperation in ABEU: A New Agenda."

IX. International Relations

This capability covers monitoring activities, maintaining selected contacts, identifying developments on issues of importance to American research libraries, and sharing experience of North American research libraries that may contribute to the development of collections and services in research libraries internationally.

As a result of discussions held in England with SCONUL during a joint meeting in October, 1988, several joint UK/ARL projects are being considered. First an invitation was extended by ARL to SCONUL to sponsor a joint meeting in North America as part of the regular fall ARL meeting schedule. Second, options for joint action over serials prices will be considered as part of the outgrowth of the ARL study of the problem. Third, a formal program of senior staff exchanges is being developed and funding

sources are being explored. ARL staff met with British Library representatives during the August 1989 IFLA meeting, and participated in an advanced journal conference in London in March to further these projects.

A discussion session to explore further the participation of ARL and ARL directors in IFLA will be held as part of the May 1990 membership meeting. The OMS will host an intern from the Australian Information Management Association in August, 1990.

X. General Administration

General administration encompasses overall coordination and management of the Association, program planning and strategy development, staffing, financial planning and strategy, fiscal control, and secretarial support and office operations.

Financial Management. In July, a balanced budget for 1990 was developed with the assistance of the ARL Executive Committee. Subsequently, the ARL Board of Directors approved a dues proposal for membership consideration which contains an increase of 20.4%, reflecting a 5% inflationary increase in the current operating budget; the establishment of a new serials capability (Office of Scientific and Academic Publishing); and an increase to be placed in the reserve. Membership voted approval of the dues increase at the October 1989 membership meeting in Washington, D.C.

The audited 1989 financial report indicates that the Association completed the year with a small ending balance of $1,500, after total expenditures of $1.6 million. Of all revenues, 57% came from dues, 32% from sales and cost recovery, and 11% from grants. The full audited financial report will be published in the Minutes of the May 1990 Membership meeting. At the beginning of 1989, the Association changed from a modified cash basis accounting policy to an accrual basis. Financial reports are now made available from G.P. Graham (the accounting service employed by ARL) within two weeks of the completed month.

Staff changes. Jaia Barrett, Assistant Executive Director, has embarked on a two-year leave of absence from ARL to join her husband in West Germany. While away she is working on several assignments. Nicola Daval left ARL at the end of the March 1990 to pursue her theatrical career on a full-time basis. These changes, coupled with the Board and Membership Resolution to establish a new program capability on the Serials Prices Project, and the approval of the Coalition for Networked Information, resulted in ARL's recruiting of new staff and other internal restructuring.

New staff:

Senior Program Officer: **Sarah M. Pritchard** was named to this post as of March 26; she was formerly Head, Microform Reading Room Section, Library of Congress, and recently a Council on Library Resources Academic Library Management Intern at Princeton University. In this position, she will direct the ARL statistics program, have general oversight of the communications and collection development capabilities, and responsibility for management of some executive office operations.

Director, Office of Scientific and Academic Publishing: **Ann Okerson** was named to head this new office as of February 5. Prior to joining ARL, she was Manager, Library Services, for Jerry Alper, Inc., and consultant for the *ARL Serials Prices Project Report* released last year. She will launch the two-fold mission of OSAP, to provide analytical information about quantity and price of published materials, and to establish collaborative relationships with the

scholarly, educational and publishing communities to better understand and influence publishing practices.

Director, Coalition for Networked Information: Joining ARL in March as Senior Program Officer for Technology, **Paul Evan Peters** was appointed as the director of the new coalition formed by ARL, CAUSE, and EDUCOM to promote the organization of, and access to, information resources on the National Research and Education Network (NREN). Peters comes from the New York Public Library where he was Systems Coordinator, and will continue to have some responsibility for telecommunications, systems and technologies for ARL overall.

Program Officer for Information Services: **C. Brigid Welch** was named to this position in the Office of Management Services. She will have primary responsibility for the OMS Publications Program, including SPEC publications and OMS Occasional Papers. Ms. Welch, who came to ARL in January from the University of California, San Diego, will also be developing a new publications series featuring innovations in management and service trends in research libraries, and will be coordinating editor for the new ARL newsletter.

Office Manager: **Gary Dikeos** has joined the staff as Office Manager, supervising the support staff and coordinating office services and meeting arrangements. Mr. Dikeos comes to ARL after working for several years at Smith Bucklin, Inc., an association management firm in Washington D.C., and he is completing studies in International Relations at the University of Maryland.

Program Officer for Communications: This position was not filled; the job description is being reevaluated in the face of office reorganization, and it is now anticipated that a high-level nonprofessional position to handle some of these functions will be developed and posted in the early summer.

Promotions and restructuring:

Office of Research and Development: **Jeffrey Gardner**, formerly director of OMS, accepted the directorship of this newly created office. Its mission is to pursue new research initiatives and provide a focus for an ongoing research agenda, to respond quickly to emerging issues on behalf of the Association, and to consolidate the administration of grant-supported projects.

Susan Jurow has been named director of the Office of Management Services. She has been Associate director since 1988, and first joined ARL/OMS in 1984. She will continue to build on her record of new approaches to management training services, as exemplified by the four new institutes she has developed for OMS: Analytical Skills, Resource Management, Training Skills, and Creativity to Innovation.

Federal Relations: **Prudence Adler** has been promoted to the position of Federal Relations Officer and is responsible for formulating ARL responses to federal and legislative issues of interest to the Association. Ms. Adler had been the ARL Communications Officer since January 1989, and prior to that date was Assistant Project Director at the Congressional Office of Technology Assessment.

Staff Visits. A series of ARL senior staff visits to ARL member libraries was continued. ARL staff accepted invitations to visit member institutions and discuss research library issues and prospects with library staff and other pertinent constituencies. The visits have included: University of Delaware, Yale University, Brown University, University of Wisconsin, University of Maryland, the

State University of New York, Albany, the University of Connecticut and the University of Alabama. Member libraries requesting a visit are expected to assist in funding travel expenses.

Office automation. Paul Evan Peters, Senior Program Officer for Technology, is coordinating a modernization of ARL's computer and networking infrastructure. In February and early March ARL installed eight Apple Macintosh SEs, one Macintosh IICX (with an Apple Portrait Monitor), and one Macintosh Portable together with a LaserWriter IINT, a Shiva NetModem 2400, and a DaynaFile diskette drive. The initial suite of software procured includes MS Word 4.0 for word processing, Excel 2.2 for spreadsheets and business graphics, FileMakerII for database management, White Knight 11.02 for telecommunications, SuperPaint 1.0p for general graphics, and Focal Point II as a productivity environment.

This hardware and software is intended as the primary office support system for ARL, replacing the existing Wang Office Information System, which has been fully depreciated for some time. A variety of IBM DOS compatible computers will continue to be used, primarily in support of the Statistics Program and OMS. A local area network is being planned to allow the new Apple Macintoshes and these existing IBM DOS compatible computers to share resources (such as printers and modems), to exchange files and messages, and to link-up with the new ARL /Coalition for Networked Information Internet node.

XI. Research and Development

The ARL Research and Development capability consolidates the administration of grants and grant-supported projects administered by ARL. The major goal within this capability is to energize the ARL research agenda through the identification and development of projects in support of the research library community's mission as well as the development of funding support for those projects. The ARL Visiting Program Officer project is a part of this capability.

Andrew W. Mellon Foundation Project. A proposal for a multi-part program was developed and funded with $65,000 from the Andrew W. Mellon Foundation. The program's major goal is to enhance the value of the ARL statistics through several projects, including:

- The preparation of historical data for ARL libraries in machine-readable form has proceeded with Office staff and the ARL Statistics Committee working with Kendon Stubbs of the University of Virginia in producing base university and non-university library data from 1907 - 1987. The project is expected to be completed this Spring and each member library will receive one set of diskettes and documentation. Additional copies will be available for purchase;

- Kendon Stubbs is also working with office staff on plans for making annual ARL statistical data available in machine-readable form and an announcement on this project is expected this Spring;

- The exploration of mechanisms to allow law and medical data to be disaggregated from the ARL data as a whole, allowing more comparisons of "general" library data, is proceeding on two fronts. Office staff have worked with the Association of Academic Health Science Library Directors and the American Bar Association to build a twelve-year data base in machine-readable form, expected to be available later this year. In addition, efforts are underway to set

up a process for centrally collecting law and medical library data annually from these groups to avoid individual libraries' having to do collect and report data twice;

• Jean Loup, from the University of Michigan, worked with ARL staff as an ARL Visiting Program Officer on exploring problems and possibilities related to the comparison of libraries' budgets as percentage of university G & E. Ms. Loup's preliminary report has been forwarded to the ARL Statistics Committee for consideration of possible action;

• Beth Shapiro of Michigan State University, also an ARL Visiting Program Officer, is working with Office staff and the Statistics Committee on an investigation of possible access and performance measures. Ms. Shapiro met with the Statistic Committee in March to review preliminary findings and is drafting a survey on access measures for possible testing later this year.

NEH Preservation Project. The National Endowment for the Humanities awarded a grant of $146,000 to the Office of Management Services in September 1988 in support of preservation planning in research libraries. The grant supports the participation of ten ARL member libraries in the Office's Preservation Planning Program (PPP), the training of preservation specialists to serve as consultants on the PPP, and a formal evaluation of the PPP by Margaret Child. The libraries at Duke and Syracuse have completed the PPP as part of this project; studies are underway at Arizona, Colorado, the Boston Public, Delaware, Kentucky and Oklahoma State; the libraries at Georgia and Purdue are beginning studies this Spring. Margaret Child has completed a survey of past PPP participants and is carrying out follow-up interviews and site visits at selected participants. Her report will form the basis for improvements in the program and its supporting resources.

H. W. Wilson Foundation Project. The H. W. Wilson Foundation awarded ARL a grant of $4,600 in support of a project to review the results of the first decade of the HEA Title II-C program. ARL Visiting Program Officer Samuel Streit of Brown University carried out the study and will be reporting results at the May ARL membership meeting.

National Register of Microform Masters (NRMM) Recon Project. ARL, in partnership with the Library of Congress, has selected OCLC - Online Computer Library Center, Inc. as the contractor for the continuation of the National Register of Microform Masters (NRMM) Recon Project. The goal of the project is the conversion into machine-readable records of the 400,000 monographic reports in the NRMM that remain to be converted. The NRMM Recon Project is made possible with funds from the National Endowment for the Humanities and the Andrew W. Mellon Foundation.

During the next 20 months, OCLC will convert approximately 258,000 bibliographic records, 30% of them not previously in machine-readable form. OCLC will convert records to full USMARC format using RETROCON, OCLC's customized online retrospective conversion service. On behalf of research libraries, OCLC is making an $0.80 in-kind contribution to the price of each processed record. Staff in LC's Cataloging Management and Publications Division will review converted records to ensure that they conform to the technical specifications established by ARL and LC. As the project proceeds, LC's MARC Cataloging Distribution Service will distribute tapes containing the converted records on a subscription basis.

North American Collections Inventory Project (NCIP). The North American Collections Inventory Project (NCIP) is operating on a cost recovery basis, providing training services and publications on-demand. ARL and RLG continue to cooperate on the development and revision of

Conspectus materials and ARL is represented by George Soete from the University of California, San Diego, on the RLG Sub-Committee on the Conspectus.

Future activities include the publication of *NCIP News*, the distribution of a microcomputer-based Conspectus system developed at the University of North Carolina, and consideration of possible cooperative uses of the Conspectus in the areas of collection development and preservation. In addition, ARL will be represented at a meeting during IFLA to consider possible international cooperation utilizing the Conspectus.

Guidelines for Bibliographic Records for Preservation Microform Masters (Serials). Crystal Graham, University of California, San Diego, as part of the ARL Visiting Program Officer Project, has drafted guidelines for the creation of bibliographic records for preservation microform masters for serials on behalf of the ARL Committee on Bibliographic Control. The draft document was mailed to ARL libraries in February for comments which will be incorporated into a revised draft. The Committee on Bibliographic Control plans to complete its work on the guidelines at the May membership meeting.

The serial guidelines define a minimum, standardized set of data elements that must be present in a national preservation record for archival, first-generation microreproductions of serials. Taken with the already released book guidelines, the serials guidelines aim to achieve the standardization that is the preeminent requirement for a comprehensive system of bibliographic control for national preservation efforts.

Preservation Program Models Project. The H. W. Wilson Foundation has awarded $9,800 to ARL for the development of descriptive models of preservation programs in academic libraries. The project, developed by the ARL Committee on Preservation of Research Library Materials, is designed to make available descriptive and quantitative information regarding preservation staffing, preservation program components, and preservation expenditures in ARL libraries. The project will allow a more thorough analysis of the various preservation activities needed to confront the challenge of preserving research resources. In addition, benchmarks and statistical profiles will be defined for differing levels of preservation program development.

The project will be carried out by three preservation management specialists: Jan Merrill-Oldham, University of Connecticut; Carolyn Clark Morrow, Harvard University; and, Mark Roosa, University of Delaware. Three members of the ARL Committee on Preservation of Research Library Materials are serving as the project's advisory committee: Carole Moore, University of Toronto; Scott Bennett, Johns Hopkins University; and William Studer, Ohio State University. Patricia McClung is serving as liaison from the Research Libraries Group and will assist in ensuring that the project's efforts are linked to RLG's activities in the preservation field. The results of the project will be published in late 1990.

Visiting Program Officer Project. The ARL Visiting Program Officer Program has led to several projects. In addition to those described above, the following projects are underway:

- Karen Turko, Head, Preservation Services, University of Toronto Library has prepared a report outlining the issues that library directors and administrators must consider when making decisions regarding the selection, implementation, and operation of a mass deacidification system. The report provides a brief overview of the characteristics of five mass deacidification systems, outlines the requirements for an effective mass deacidification system, and discusses the range of management issues that must be considered. The report will be published by ARL in May 1990.

• Sandra Peterson, Yale University, has prepared a summary document for ARL and ALA on "Federal Information Policy: Issues and Activities" and continues to monitor relevant legislation.

• Rhonda MacInnes of the National Library of Canada completed a years' work with the Office of Management Services as a training intern and has returned to the National Library to develop and manage the Library's inhouse training program.

• Christine Crocker, from Deakins University in Australia, will be working with the Office of Management Services from August through November on a Fulbright grant. Ms. Crocker will be assisting with the Office's training and publications programs before returning to Australia where she will continue to provide training to Australian librarians through her work with the Australian Information Management Association.

XIII. Coalition for Networked Information

The Coalition for Networked Information was formed by ARL, CAUSE, and EDUCOM, and approved in March 1990. Its purpose is to promote the provision of information resources on existing telecommunications networks and on proposed interconnected networks. The linkage of research libraries to these networks, to each other and to their respective constituencies, is the goal of ARL in establishing this capability.

The establishment of the Coalition for Networked Information was announced at the National Net '90 meeting, the culmination of six months of intense work and collaboration by the Task Force on Telecommunications, chaired by Nancy Cline, the Federal Relations Officer, Prudence Adler, and the leaders and officers of ARL, CAUSE, and EDUCOM. The development of this coalition was a priority of the Technology and Access capability for 1990.

Seventy-one institutions, organizations, and sponsors have already committed to joining the Coalition. ARL's new Senior Program Officer for Technology, Paul Evan Peters, was appointed as of March 26 to be Director of the Coalition; the Coalition's secretariat will be housed at ARL. A Steering Committee of nine members appointed by the chief executives of ARL, CAUSE, and EDUCOM has been formed and Richard West, Associate Vice President of the University of California, has been designated as its chair. ARL's members on the Coalition Steering Committee are Susan Brynteson, Nancy Cline, and Jerome Yavarkovsky.

The immediate focus of the Coalition and its Steering Committee is the manifold membership, administrative, and liaison details that must be addressed when starting-up an activity of this type, and the agenda and logistics for the organizational meeting of the Task Force scheduled for June 5 and June 6, 1990. Steps have already been taken to configure and install a suitable Internet node at ARL to support the Coalition's files, databases, and electronic communication activities.

compiled April 23, 1990

APPENDIX B

Report on the 1988-89 ARL Supplementary Statistics

I. Background

At the May, 1989, membership meeting in Providence, the ARL members approved a report by the Committee on ARL Statistics entitled "Future Directions for the ARL Statistics." The report contained recommendations in three areas: (1) ARL should collect statistics on the full range of holdings of ARL libraries, and also on titles (records) in online catalogs; (2) government documents in separate collections should be counted; (3) access measures should be developed.

In response to the first two sets of recommendations, ARL issued a supplementary questionnaire for 1988-89. (The recommendations on access measures are being addressed by Beth Shapiro as part of the Mellon-funded project.) The responses to the supplementary questionnaire are summarized in this report.

The supplementary questionnaire was not revolutionary. It mainly requested the numbers of items and titles in non-book formats, and it also asked for numbers of items in separate documents collections. The breakdown of formats of holdings -- printed volumes, microforms, manuscripts, maps, various AV formats, and machine-readable files -- merely follows the chapter headings in *AACR2*. For U.S. members there is almost no category in the supplementary questionnaire that they are not already reporting on the federal IPEDS questionnaires.

One of the problems faced by the Statistics Committee for years has been the inability of research libraries to report much more than traditional data categories -- printed volumes held and added, staff, a few categories of expenditures. As a result, the *ARL Statistics* have underrepresented the resources of ARL libraries. Even the reported counts of printed and microform items, moreover, have been physical counts. Titles, which indicate intellectual content, have not been reported. The supplementary questionnaire therefore sought to elicit information to correct the limited view of ARL libraries presented in the annual *ARL Statistics*.

II. General Results

Summary results from the supplementary questionnaire are shown in Table 1 for academic libraries.

Through March 7, 98 academic members and 3 non-academic members had returned their questionnaires. As Table 1 shows, respondents had considerably less trouble with item counts than with title counts. Aside from printed volumes and microforms, (reported on the regular ARL questionnaire), libraries had less difficulty with the following categories of items: manuscripts (85% response), maps (85%), audio (82%), documents items (80%), and video/film (80%). Few libraries could report microform titles (24%), audio titles (34%), and video/film titles (38%). A curiosity is machine-readable materials (which *AACR2* calls computer files). Although libraries have been collecting these materials for only a few years, already some libraries seem unable to report how many machine-readable files they have: 30% don't know how many CD-ROMs, floppy disks, and computer tapes they own, and 49% don't know how

many titles they have in machine-readable form. On the other hand, 87% of the academic members know how many records are in their online catalogs.

Taking the medians of Table 1 at face value, we could form the following picture of the resources in a typical ARL library: It has 1 million printed titles in 2 million bound volumes, with another 150,000 titles in microforms. It has an additional 400,000 items published by the U.S. and Canadian governments and other government bodies. It has 9,000 feet of manuscripts; 150,000 maps; 90,000 slides and prints; 30,000 compact disks, cassettes, and phonograph records; 2,500 videotapes and films; and 140 CD-ROMs, floppy disks, and computer tapes. And 800,000 intellectual units of these resources are represented in its online catalog.

III. Some Specific Results

1. *Documents*: 66 of 78 libraries reporting documents (85%) claim at least some documents shelved in a separate collection and not counted in the printed volume count. 44 libraries reported documents in both items and linear feet. The median ratio of items to feet is 52 (which may have been influenced, however, by the instruction in the questionnaire that there are normally 52 items per linear foot). The existence of so many documents in separate collections suggests that it would be useful to count separately shelved documents.

2. *Volumes per title*: 46 libraries reported both printed volumes and printed titles. The median ratio of volumes per title is 1.9, with an interquartile range from 1.7 to 2.2. These data are in accord with previous studies of the volume/title ratio in academic libraries.

3. *Online catalog records*: In the 85 libraries reporting on the numbers of records in their local online catalogs, there is a national resource of over 80,000,000 records. Interpolating from these figures for the entire ARL academic membership, we can estimate nearly 100 million catalog records and an equivalent number of cataloged titles.

Catalog records of course may include not only printed titles but microform, manuscript, AV, and other titles. Nevertheless, it is interesting to examine the ratio of online catalog records to printed titles. For 42 libraries reporting both printed titles and online records, the median ratio is 79%, with an interquartile range between 55% and 100%. It appears that the typical ARL library still has to do retrospective conversion for 20% or more of its printed titles.

4. *Specific data*: Tables 2-9 display the returns for major categories covered by the questionnaire. Blanks in the tables indicate missing data. As with any data compilation, it is easy to find strange-looking numbers here. These numbers should be handled with care, because they are listed as reported to ARL, without any further verification by the ARL office.

Kendon Stubbs
University of Virginia Library

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Table 1:
Medians and 1st and 3rd Quartiles of ARL Supplementary Statistics, 1988-89

Variable	Number Reporting	1st Quartile	Median	3rd Quartile
Volumes held	97	1,748,868	2,039,345	2,817,779
Titles held	46	892,522	1,028,804	1,514,936
Microform units	97	1,624,710	2,397,217	3,137,720
Microform titles	24	36,255	147,941	1,013,145
Manuscripts feet	83	5,410	8,795	15,588
Cartographic items	83	96,469	154,969	237,517
Graphic items	76	9,993	88,040	370,146
Audio items	80	12,857	27,635	44,989
Audio titles	33	2,607	11,289	20,142
Video/film items	78	1,189	2,552	5,789
Video/film titles	37	800	1,726	3,120
Computer items	69	31	144	352
Computer titles	50	18	66	221
Documents items	78	114,522	387,428	723,981
Documents feet	54	2,544	10,888	21,749
Documents serials	64	0	466	2,591
Documents microforms	72	0	87,464	809,167
Online catalog records	85	642,671	823,352	1,045,015

Table 2:
Manuscripts (Feet) in ARL Libraries,
1988-89

1. ALABAMA	22,699	55. MIAMI	
2. ALBERTA	366	56. MICHIGAN	
3. ARIZONA	5,786	57. MICHIGAN STATE	19,280
4. ARIZONA STATE		58. MINNESOTA	33,077
5. BOSTON	23,600	59. MISSOURI	
6. BRIGHAM YOUNG	14,150	60. NEBRASKA	6,100
7. BRITISH COLUMBIA	8,716	61. NEW MEXICO	8,204
8. BROWN		62. NEW YORK	8,813
9. CALIFORNIA, BERKELEY		63. NORTH CAROLINA	13,437
10. CALIFORNIA, DAVIS	7,067	64. NORTH CAROLINA STATE	
11. CALIFORNIA, IRVINE		65. NORTHWESTERN	
12. CALIFORNIA, LOS ANGELES		66. NOTRE DAME	
13. CALIFORNIA, RIVERSIDE		67. OHIO STATE	
14. CALIFORNIA, SAN DIEGO		68. OKLAHOMA	9,200
15. CALIFORNIA, SANTA BARBARA		69. OKLAHOMA STATE	4,671
16. CASE WESTERN RESERVE	8,795	70. OREGON	54,931
17. CHICAGO		71. PENNSYLVANIA	8,020
18. CINCINNATI	12,323	72. PENNSYLVANIA STATE	11,495
19. COLORADO	19,770	73. PITTSBURGH	13,158
20. COLORADO STATE	2,000	74. PRINCETON	44,734
21. COLUMBIA		75. PURDUE	1,024
22. CONNECTICUT	13,997	76. QUEEN'S	15,000
23. CORNELL	27,520	77. RICE	3,041
24. DARTMOUTH	9,824	78. ROCHESTER	8,124
25. DELAWARE	970	79. RUTGERS	15,588
26. DUKE	14,626	80. SASKATCHEWAN	175
27. EMORY	6,571	81. SOUTH CAROLINA	5,600
28. FLORIDA	5,410	82. SOUTHERN CALIFORNIA	
29. FLORIDA STATE	2,268	83. SOUTHERN ILLINOIS	11,446
30. GEORGETOWN		84. STANFORD	
31. GEORGIA	18,624	85. SUNY-ALBANY	5,536
32. GEORGIA TECH	37,518	86. SUNY-BUFFALO	7,178
33. GUELPH	526	87. SUNY-STONY BROOK	4,525
34. HARVARD		88. SYRACUSE	44,667
35. HAWAII	2,235	89. TEMPLE	15,078
36. HOUSTON	1,160	90. TENNESSEE	5,663
37. HOWARD	6,000	91. TEXAS	45,322
38. ILLINOIS, CHICAGO	13,494	92. TEXAS A&M	9,762
39. ILLINOIS, URBANA	14,151	93. TORONTO	17,190
40. INDIANA	90,625	94. TULANE	18,506
41. IOWA	7,882	95. UTAH	6,751
42. IOWA STATE	2,806	96. VANDERBILT	4,600
43. JOHNS HOPKINS	6,101	97. VIRGINIA	14,922
44. KANSAS	24,060	98. VPI & SU	4,500
45. KENT STATE	5,455	99. WASHINGTON	35,375
46. KENTUCKY	19,033	100. WASHINGTON STATE	8,020
47. LAVAL		101. WASHINGTON U.-ST. LOUIS	8,264
48. LOUISIANA STATE	15,000	102. WATERLOO	604
49. MCGILL	2,749	103. WAYNE STATE	50,000
50. MCMASTER	9,260	104. WESTERN ONTARIO	
51. MANITOBA	3,168	105. WISCONSIN	1,173
52. MARYLAND	12,883	106. YALE	43,393
53. MASSACHUSETTS		107. YORK	4,502
54. MIT	5,949		

Table 3:
Cartographic Materials (Items) in ARL Libraries, 1988-89

1.	ALABAMA	308,000	55.	MIAMI	
2.	ALBERTA		56.	MICHIGAN	
3.	ARIZONA	209,982	57.	MICHIGAN STATE	172,020
4.	ARIZONA STATE		58.	MINNESOTA	
5.	BOSTON		59.	MISSOURI	
6.	BRIGHAM YOUNG	195,507	60.	NEBRASKA	36,000
7.	BRITISH COLUMBIA	181,151	61.	NEW MEXICO	168,020
8.	BROWN	115,609	62.	NEW YORK	
9.	CALIFORNIA, BERKELEY	382,066	63.	NORTH CAROLINA	240,449
10.	CALIFORNIA, DAVIS	214,296	64.	NORTH CAROLINA STATE	25,088
11.	CALIFORNIA, IRVINE	8,058	65.	NORTHWESTERN	
12.	CALIFORNIA, LOS ANGELES	591,581	66.	NOTRE DAME	103,000
13.	CALIFORNIA, RIVERSIDE	72,941	67.	OHIO STATE	
14.	CALIFORNIA, SAN DIEGO		68.	OKLAHOMA	
15.	CALIFORNIA, SANTA BARBARA		69.	OKLAHOMA STATE	166,991
16.	CASE WESTERN RESERVE		70.	OREGON	779,666
17.	CHICAGO		71.	PENNSYLVANIA	115,000
18.	CINCINNATI	108,598	72.	PENNSYLVANIA STATE	324,428
19.	COLORADO	159,382	73.	PITTSBURGH	89,995
20.	COLORADO STATE	38,756	74.	PRINCETON	375,726
21.	COLUMBIA		75.	PURDUE	179,425
22.	CONNECTICUT	151,778	76.	QUEEN'S	126,680
23.	CORNELL	189,224	77.	RICE	23,891
24.	DARTMOUTH	158,172	78.	ROCHESTER	4,280
25.	DELAWARE	111,910	79.	RUTGERS	
26.	DUKE		80.	SASKATCHEWAN	66,107
27.	EMORY		81.	SOUTH CAROLINA	192,218
28.	FLORIDA	520,751	82.	SOUTHERN CALIFORNIA	
29.	FLORIDA STATE	154,969	83.	SOUTHERN ILLINOIS	247,410
30.	GEORGETOWN		84.	STANFORD	
31.	GEORGIA	536,886	85.	SUNY-ALBANY	206
32.	GEORGIA TECH	155,234	86.	SUNY-BUFFALO	159,300
33.	GUELPH	67,851	87.	SUNY-STONY BROOK	103,062
34.	HARVARD	542,474	88.	SYRACUSE	147,345
35.	HAWAII	225,553	89.	TEMPLE	96,469
36.	HOUSTON	64	90.	TENNESSEE	1,038
37.	HOWARD	84	91.	TEXAS	328,591
38.	ILLINOIS, CHICAGO	151,059	92.	TEXAS A&M	136,346
39.	ILLINOIS, URBANA	600,234	93.	TORONTO	244,620
40.	INDIANA	516,703	94.	TULANE	13,836
41.	IOWA	317,131	95.	UTAH	144,681
42.	IOWA STATE	114,947	96.	VANDERBILT	108,304
43.	JOHNS HOPKINS	238,455	97.	VIRGINIA	122,862
44.	KANSAS	282,431	98.	VPI & SU	120,000
45.	KENT STATE	216,000	99.	WASHINGTON	237,517
46.	KENTUCKY	196,403	100.	WASHINGTON STATE	655
47.	LAVAL	110,957	101.	WASHINGTON U.-ST. LOUIS	90,423
48.	LOUISIANA STATE	471,175	102.	WATERLOO	116,149
49.	MCGILL	215,044	103.	WAYNE STATE	26,490
50.	MCMASTER	126,914	104.	WESTERN ONTARIO	3,294
51.	MANITOBA	98,286	105.	WISCONSIN	
52.	MARYLAND	180,917	106.	YALE	406,053
53.	MASSACHUSETTS		107.	YORK	95,857
54.	MIT	155,742			

Table 4:
Graphic Materials (Items) in ARL Libraries,
1988-89

1.	ALABAMA	69,818	55.	MIAMI	
2.	ALBERTA		56.	MICHIGAN	
3.	ARIZONA	90,058	57.	MICHIGAN STATE	1,583
4.	ARIZONA STATE	18,352	58.	MINNESOTA	
5.	BOSTON		59.	MISSOURI	
6.	BRIGHAM YOUNG	5,055	60.	NEBRASKA	
7.	BRITISH COLUMBIA	128,899	61.	NEW MEXICO	56,743
8.	BROWN	551,386	62.	NEW YORK	488,566
9.	CALIFORNIA, BERKELEY	2,483,893	63.	NORTH CAROLINA	81,667
10.	CALIFORNIA, DAVIS	198,894	64.	NORTH CAROLINA STATE	86,021
11.	CALIFORNIA, IRVINE	23,218	65.	NORTHWESTERN	
12.	CALIFORNIA, LOS ANGELE	1,390,393	66.	NOTRE DAME	
13.	CALIFORNIA, RIVERSIDE	19,617	67.	OHIO STATE	
14.	CALIFORNIA, SAN DIEGO	206,301	68.	OKLAHOMA	
15.	CALIFORNIA, SANTA BARB	7,320	69.	OKLAHOMA STATE	8,695
16.	CASE WESTERN RESERVE	20,000	70.	OREGON	551,122
17.	CHICAGO		71.	PENNSYLVANIA	
18.	CINCINNATI	11,799	72.	PENNSYLVANIA STATE	350,639
19.	COLORADO	169,192	73.	PITTSBURGH	107,425
20.	COLORADO STATE	1,899	74.	PRINCETON	
21.	COLUMBIA		75.	PURDUE	1,772
22.	CONNECTICUT	7,371	76.	QUEEN'S	
23.	CORNELL	34,511	77.	RICE	236,421
24.	DARTMOUTH	45,779	78.	ROCHESTER	
25.	DELAWARE	2,800	79.	RUTGERS	
26.	DUKE		80.	SASKATCHEWAN	58,978
27.	EMORY		81.	SOUTH CAROLINA	250,000
28.	FLORIDA	10,305	82.	SOUTHERN CALIFORNIA	
29.	FLORIDA STATE	69	83.	SOUTHERN ILLINOIS	3,000
30.	GEORGETOWN		84.	STANFORD	
31.	GEORGIA		85.	SUNY-ALBANY	2
32.	GEORGIA TECH	51,773	86.	SUNY-BUFFALO	82,950
33.	GUELPH	395	87.	SUNY-STONY BROOK	
34.	HARVARD		88.	SYRACUSE	240,000
35.	HAWAII	800	89.	TEMPLE	10,001,490
36.	HOUSTON	92	90.	TENNESSEE	137,692
37.	HOWARD	31,211	91.	TEXAS	5,715,363
38.	ILLINOIS, CHICAGO	228,888	92.	TEXAS A&M	
39.	ILLINOIS, URBANA	84,185	93.	TORONTO	596,509
40.	INDIANA	392,632	94.	TULANE	1,022,456
41.	IOWA	196,037	95.	UTAH	109,057
42.	IOWA STATE	500,084	96.	VANDERBILT	8,096
43.	JOHNS HOPKINS		97.	VIRGINIA	357,872
44.	KANSAS	2,066,780	98.	VPI & SU	102,383
45.	KENT STATE	96	99.	WASHINGTON	745,789
46.	KENTUCKY	411,750	100.	WASHINGTON STATE	282,463
47.	LAVAL	382,419	101.	WASHINGTON U.-ST. LOUI	4,544
48.	LOUISIANA STATE		102.	WATERLOO	
49.	MCGILL	134,280	103.	WAYNE STATE	900,000
50.	MCMASTER	9,680	104.	WESTERN ONTARIO	32,082
51.	MANITOBA	519,007	105.	WISCONSIN	164,979
52.	MARYLAND	58,954	106.	YALE	2,284,072
53.	MASSACHUSETTS		107.	YORK	9,322
54.	MIT	1,132,910			

Table 5:
Audio Materials (Items) in ARL Libraries,
1988-89

1. ALABAMA	13,336	55. MIAMI	
2. ALBERTA		56. MICHIGAN	
3. ARIZONA	30,876	57. MICHIGAN STATE	28,200
4. ARIZONA STATE		58. MINNESOTA	
5. BOSTON	45,000	59. MISSOURI	
6. BRIGHAM YOUNG	42,866	60. NEBRASKA	
7. BRITISH COLUMBIA	170,161	61. NEW MEXICO	36,966
8. BROWN	28,446	62. NEW YORK	
9. CALIFORNIA, BERKELEY	51,024	63. NORTH CAROLINA	77,840
10. CALIFORNIA, DAVIS	12,779	64. NORTH CAROLINA STATE	
11. CALIFORNIA, IRVINE	10,635	65. NORTHWESTERN	
12. CALIFORNIA, LOS ANGELES	115,971	66. NOTRE DAME	9,682
13. CALIFORNIA, RIVERSIDE	30,074	67. OHIO STATE	
14. CALIFORNIA, SAN DIEGO	54,206	68. OKLAHOMA	
15. CALIFORNIA, SANTA BARBARA	69,671	69. OKLAHOMA STATE	3,809
16. CASE WESTERN RESERVE		70. OREGON	31,806
17. CHICAGO		71. PENNSYLVANIA	36,099
18. CINCINNATI	30,348	72. PENNSYLVANIA STATE	
19. COLORADO	39,353	73. PITTSBURGH	30,200
20. COLORADO STATE	4,962	74. PRINCETON	44,977
21. COLUMBIA		75. PURDUE	1,900
22. CONNECTICUT	15,078	76. QUEEN'S	13,680
23. CORNELL	59,849	77. RICE	23,303
24. DARTMOUTH	19,711	78. ROCHESTER	47,884
25. DELAWARE	1,307	79. RUTGERS	
26. DUKE		80. SASKATCHEWAN	6,440
27. EMORY		81. SOUTH CAROLINA	6,930
28. FLORIDA	15,413	82. SOUTHERN CALIFORNIA	4,697
29. FLORIDA STATE	29,890	83. SOUTHERN ILLINOIS	20,378
30. GEORGETOWN		84. STANFORD	
31. GEORGIA	28,861	85. SUNY-ALBANY	3,517
32. GEORGIA TECH	1,859	86. SUNY-BUFFALO	29,400
33. GUELPH	7,669	87. SUNY-STONY BROOK	18,840
34. HARVARD		88. SYRACUSE	297,247
35. HAWAII		89. TEMPLE	21,525
36. HOUSTON	472	90. TENNESSEE	23,433
37. HOWARD	12,394	91. TEXAS	81,498
38. ILLINOIS, CHICAGO	13,796	92. TEXAS A&M	
39. ILLINOIS, URBANA	126,817	93. TORONTO	159,854
40. INDIANA	226,902	94. TULANE	54,367
41. IOWA	18,229	95. UTAH	27,625
42. IOWA STATE	12,420	96. VANDERBILT	17,550
43. JOHNS HOPKINS	988	97. VIRGINIA	39,014
44. KANSAS	101,054	98. VPI & SU	5,900
45. KENT STATE	22,644	99. WASHINGTON	60,311
46. KENTUCKY		100. WASHINGTON STATE	7,447
47. LAVAL	12,935	101. WASHINGTON U.-ST. LOUIS	27,813
48. LOUISIANA STATE	13,742	102. WATERLOO	4,486
49. MCGILL	24,075	103. WAYNE STATE	
50. MCMASTER	27,645	104. WESTERN ONTARIO	32,701
51. MANITOBA	14,137	105. WISCONSIN	49,480
52. MARYLAND	73,098	106. YALE	150,527
53. MASSACHUSETTS		107. YORK	33,224
54. MIT	17,460		

Table 6:
Video and Film Materials (Items) in ARL Libraries, 1988-89

1.	ALABAMA	1,633	55.	MIAMI	
2.	ALBERTA		56.	MICHIGAN	
3.	ARIZONA	12,974	57.	MICHIGAN STATE	19
4.	ARIZONA STATE	700	58.	MINNESOTA	
5.	BOSTON		59.	MISSOURI	
6.	BRIGHAM YOUNG	896	60.	NEBRASKA	
7.	BRITISH COLUMBIA	4,348	61.	NEW MEXICO	1,990
8.	BROWN	1,558	62.	NEW YORK	
9.	CALIFORNIA, BERKELEY	5,789	63.	NORTH CAROLINA	36,978
10.	CALIFORNIA, DAVIS	418	64.	NORTH CAROLINA STATE	
11.	CALIFORNIA, IRVINE	1,331	65.	NORTHWESTERN	
12.	CALIFORNIA, LOS ANGELES	6,816	66.	NOTRE DAME	459
13.	CALIFORNIA, RIVERSIDE	1,189	67.	OHIO STATE	
14.	CALIFORNIA, SAN DIEGO	1,996	68.	OKLAHOMA	2,432
15.	CALIFORNIA, SANTA BARBARA	434	69.	OKLAHOMA STATE	3,653
16.	CASE WESTERN RESERVE		70.	OREGON	3,173
17.	CHICAGO		71.	PENNSYLVANIA	535
18.	CINCINNATI	1,281	72.	PENNSYLVANIA STATE	
19.	COLORADO	418	73.	PITTSBURGH	8,055
20.	COLORADO STATE		74.	PRINCETON	
21.	COLUMBIA		75.	PURDUE	3,700
22.	CONNECTICUT	2,616	76.	QUEEN'S	243
23.	CORNELL	14,607	77.	RICE	1,451
24.	DARTMOUTH	1,619	78.	ROCHESTER	114
25.	DELAWARE	3,098	79.	RUTGERS	
26.	DUKE		80.	SASKATCHEWAN	134
27.	EMORY		81.	SOUTH CAROLINA	3,163
28.	FLORIDA	3,962	82.	SOUTHERN CALIFORNIA	3,257
29.	FLORIDA STATE	1,312	83.	SOUTHERN ILLINOIS	6,342
30.	GEORGETOWN		84.	STANFORD	
31.	GEORGIA	6,321	85.	SUNY-ALBANY	1,665
32.	GEORGIA TECH	92	86.	SUNY-BUFFALO	930
33.	GUELPH	4,116	87.	SUNY-STONY BROOK	1,365
34.	HARVARD		88.	SYRACUSE	787
35.	HAWAII		89.	TEMPLE	11,055
36.	HOUSTON	367	90.	TENNESSEE	2,998
37.	HOWARD	4,047	91.	TEXAS	7,104
38.	ILLINOIS, CHICAGO	7,870	92.	TEXAS A&M	
39.	ILLINOIS, URBANA	3,678	93.	TORONTO	3,649
40.	INDIANA	16,405	94.	TULANE	1,573
41.	IOWA	2,488	95.	UTAH	4,493
42.	IOWA STATE	24,816	96.	VANDERBILT	2,153
43.	JOHNS HOPKINS	402	97.	VIRGINIA	8,163
44.	KANSAS	6,471	98.	VPI & SU	3,600
45.	KENT STATE	13,249	99.	WASHINGTON	5,160
46.	KENTUCKY		100.	WASHINGTON STATE	12,082
47.	LAVAL	7,489	101.	WASHINGTON U.-ST. LOUIS	1,465
48.	LOUISIANA STATE	1,330	102.	WATERLOO	
49.	MCGILL	1,166	103.	WAYNE STATE	
50.	MCMASTER	1,855	104.	WESTERN ONTARIO	670
51.	MANITOBA	1,136	105.	WISCONSIN	6,375
52.	MARYLAND	9,802	106.	YALE	1,408
53.	MASSACHUSETTS		107.	YORK	3,833
54.	MIT	3,057			

Table 7
Machine-Readable Materials (Items) in ARL Libraries, 1988-89

1. ALABAMA	35	55. MIAMI	
2. ALBERTA		56. MICHIGAN	
3. ARIZONA	47	57. MICHIGAN STATE	859
4. ARIZONA STATE	73	58. MINNESOTA	
5. BOSTON	11	59. MISSOURI	
6. BRIGHAM YOUNG	102	60. NEBRASKA	
7. BRITISH COLUMBIA	921	61. NEW MEXICO	1,017
8. BROWN	15	62. NEW YORK	80
9. CALIFORNIA, BERKELEY		63. NORTH CAROLINA	390
0. CALIFORNIA, DAVIS	6	64. NORTH CAROLINA STATE	
1. CALIFORNIA, IRVINE		65. NORTHWESTERN	
2. CALIFORNIA, LOS ANGELES		66. NOTRE DAME	230
3. CALIFORNIA, RIVERSIDE	175	67. OHIO STATE	
4. CALIFORNIA, SAN DIEGO		68. OKLAHOMA	19
5. CALIFORNIA, SANTA BARBARA	18	69. OKLAHOMA STATE	855
6. CASE WESTERN RESERVE	131	70. OREGON	9
7. CHICAGO		71. PENNSYLVANIA	
8. CINCINNATI	656	72. PENNSYLVANIA STATE	
9. COLORADO	245	73. PITTSBURGH	217
0. COLORADO STATE		74. PRINCETON	
1. COLUMBIA		75. PURDUE	26
2. CONNECTICUT		76. QUEEN'S	2,412
3. CORNELL	287	77. RICE	117
4. DARTMOUTH	249	78. ROCHESTER	
5. DELAWARE	45	79. RUTGERS	
6. DUKE		80. SASKATCHEWAN	775
7. EMORY	28	81. SOUTH CAROLINA	3
8. FLORIDA	6,215	82. SOUTHERN CALIFORNIA	957
9. FLORIDA STATE	282	83. SOUTHERN ILLINOIS	134
0. GEORGETOWN		84. STANFORD	
1. GEORGIA		85. SUNY-ALBANY	560
2. GEORGIA TECH	32	86. SUNY-BUFFALO	255
3. GUELPH	352	87. SUNY-STONY BROOK	4
4. HARVARD		88. SYRACUSE	212
5. HAWAII		89. TEMPLE	957
6. HOUSTON	30	90. TENNESSEE	46
7. HOWARD	269	91. TEXAS	447
8. ILLINOIS, CHICAGO		92. TEXAS A&M	
9. ILLINOIS, URBANA	33	93. TORONTO	764
0. INDIANA		94. TULANE	7
1. IOWA	462	95. UTAH	28
2. IOWA STATE	49	96. VANDERBILT	250
3. JOHNS HOPKINS	144	97. VIRGINIA	17
4. KANSAS	31	98. VPI & SU	17
5. KENT STATE	3	99. WASHINGTON	219
6. KENTUCKY	34	100. WASHINGTON STATE	
7. LAVAL		101. WASHINGTON U.-ST. LOUIS	285
8. LOUISIANA STATE	122	102. WATERLOO	
9. MCGILL		103. WAYNE STATE	
0. MCMASTER	179	104. WESTERN ONTARIO	215
1. MANITOBA	456	105. WISCONSIN	
2. MARYLAND	70	106. YALE	16,086
3. MASSACHUSETTS		107. YORK	30
4. MIT	311		

Table 8
Separate Documents (Items) in ARL Libraries,
1988-89

1. ALABAMA	988,668	55. MIAMI	
2. ALBERTA		56. MICHIGAN	
3. ARIZONA	1,045,555	57. MICHIGAN STATE	0
4. ARIZONA STATE		58. MINNESOTA	3,453,883
5. BOSTON	0	59. MISSOURI	363,388
6. BRIGHAM YOUNG	44,172	60. NEBRASKA	
7. BRITISH COLUMBIA	723,981	61. NEW MEXICO	384,482
8. BROWN	216,692	62. NEW YORK	309,849
9. CALIFORNIA, BERKELEY		63. NORTH CAROLINA	1,753,925
10. CALIFORNIA, DAVIS		64. NORTH CAROLINA STATE	770,464
11. CALIFORNIA, IRVINE	430,029	65. NORTHWESTERN	
12. CALIFORNIA, LOS ANGELES	114,552	66. NOTRE DAME	122,975
13. CALIFORNIA, RIVERSIDE	397,794	67. OHIO STATE	
14. CALIFORNIA, SAN DIEGO	378,431	68. OKLAHOMA	1,144,359
15. CALIFORNIA, SANTA BARBA	628,699	69. OKLAHOMA STATE	1,045,515
16. CASE WESTERN RESERVE	571,376	70. OREGON	425,686
17. CHICAGO		71. PENNSYLVANIA	
18. CINCINNATI		72. PENNSYLVANIA STATE	0
19. COLORADO	1,588,953	73. PITTSBURGH	5,823
20. COLORADO STATE	454,253	74. PRINCETON	350,377
21. COLUMBIA		75. PURDUE	407,508
22. CONNECTICUT		76. QUEEN'S	234,226
23. CORNELL		77. RICE	
24. DARTMOUTH	73,000	78. ROCHESTER	390,374
25. DELAWARE	470,917	79. RUTGERS	2,384,954
26. DUKE	2,104,060	80. SASKATCHEWAN	383,992
27. EMORY	282,224	81. SOUTH CAROLINA	0
28. FLORIDA	1,026,459	82. SOUTHERN CALIFORNIA	9,361
29. FLORIDA STATE	643,118	83. SOUTHERN ILLINOIS	353,848
30. GEORGETOWN		84. STANFORD	
31. GEORGIA		85. SUNY-ALBANY	359,846
32. GEORGIA TECH	150,142	86. SUNY-BUFFALO	475,000
33. GUELPH	0	87. SUNY-STONY BROOK	340,704
34. HARVARD		88. SYRACUSE	309,500
35. HAWAII	658,405	89. TEMPLE	144,535
36. HOUSTON	402,365	90. TENNESSEE	97,929
37. HOWARD		91. TEXAS	
38. ILLINOIS, CHICAGO	0	92. TEXAS A&M	0
39. ILLINOIS, URBANA	0	93. TORONTO	
40. INDIANA	800,688	94. TULANE	1,620,271
41. IOWA	865,911	95. UTAH	595,673
42. IOWA STATE	225,017	96. VANDERBILT	106,975
43. JOHNS HOPKINS	0	97. VIRGINIA	1,086,460
44. KANSAS	0	98. VPI & SU	608,400
45. KENT STATE	11,183	99. WASHINGTON	0
46. KENTUCKY	2,036,570	100. WASHINGTON STATE	
47. LAVAL	0	101. WASHINGTON U.-ST. LOUIS	341,821
48. LOUISIANA STATE	630,000	102. WATERLOO	
49. MCGILL	1,412,808	103. WAYNE STATE	183,576
50. MCMASTER	858,736	104. WESTERN ONTARIO	
51. MANITOBA	458,062	105. WISCONSIN	667,272
52. MARYLAND	666,495	106. YALE	873,955
53. MASSACHUSETTS		107. YORK	
54. MIT			

Table 9
Online Catalogs (Records) in ARL Libraries,
1988-89

1.	ALABAMA	625,000	55.	MIAMI	
2.	ALBERTA	942,646	56.	MICHIGAN	
3.	ARIZONA	286,612	57.	MICHIGAN STATE	1,104,301
4.	ARIZONA STATE		58.	MINNESOTA	1,955,009
5.	BOSTON	767,262	59.	MISSOURI	882,272
6.	BRIGHAM YOUNG	829,220	60.	NEBRASKA	530,000
7.	BRITISH COLUMBIA	711,000	61.	NEW MEXICO	1,036,070
8.	BROWN	738,140	62.	NEW YORK	720,615
9.	CALIFORNIA, BERKELEY		63.	NORTH CAROLINA	978,399
10.	CALIFORNIA, DAVIS	548,795	64.	NORTH CAROLINA STATE	609,743
11.	CALIFORNIA, IRVINE	797,238	65.	NORTHWESTERN	
12.	CALIFORNIA, LOS ANGELES	2,747,450	66.	NOTRE DAME	823,352
13.	CALIFORNIA, RIVERSIDE	642,671	67.	OHIO STATE	
14.	CALIFORNIA, SAN DIEGO	1,133,809	68.	OKLAHOMA	618,000
15.	CALIFORNIA, SANTA BARBA		69.	OKLAHOMA STATE	
16.	CASE WESTERN RESERVE	600,000	70.	OREGON	586,226
17.	CHICAGO		71.	PENNSYLVANIA	1,050,000
18.	CINCINNATI	899,761	72.	PENNSYLVANIA STATE	1,338,307
19.	COLORADO	1,033,318	73.	PITTSBURGH	1,137,044
20.	COLORADO STATE	306,312	74.	PRINCETON	555,820
21.	COLUMBIA		75.	PURDUE	441,650
22.	CONNECTICUT		76.	QUEEN'S	1,100,000
23.	CORNELL		77.	RICE	860,000
24.	DARTMOUTH	953,299	78.	ROCHESTER	876,827
25.	DELAWARE	675,000	79.	RUTGERS	785,075
26.	DUKE	630,129	80.	SASKATCHEWAN	669,574
27.	EMORY	519,559	81.	SOUTH CAROLINA	825,000
28.	FLORIDA	1,206,346	82.	SOUTHERN CALIFORNIA	810,992
29.	FLORIDA STATE	984,631	83.	SOUTHERN ILLINOIS	1,066,285
30.	GEORGETOWN		84.	STANFORD	
31.	GEORGIA	1,052,000	85.	SUNY-ALBANY	752,000
32.	GEORGIA TECH	341,971	86.	SUNY-BUFFALO	
33.	GUELPH	789,472	87.	SUNY-STONY BROOK	
34.	HARVARD	3,000,000	88.	SYRACUSE	750,000
35.	HAWAII	997,032	89.	TEMPLE	559,660
36.	HOUSTON	743,350	90.	TENNESSEE	840,000
37.	HOWARD		91.	TEXAS	2,255,525
38.	ILLINOIS, CHICAGO	650,000	92.	TEXAS A&M	1,038,977
39.	ILLINOIS, URBANA	3,308,491	93.	TORONTO	3,175,387
40.	INDIANA	525,000	94.	TULANE	800,000
41.	IOWA	900,211	95.	UTAH	2,152,396
42.	IOWA STATE	542,600	96.	VANDERBILT	931,376
43.	JOHNS HOPKINS	818,196	97.	VIRGINIA	1,585,531
44.	KANSAS	705,729	98.	VPI & SU	814,979
45.	KENT STATE	1,070,000	99.	WASHINGTON	1,380,000
46.	KENTUCKY	755,149	100.	WASHINGTON STATE	607,142
47.	LAVAL		101.	WASHINGTON U.-ST. LOUIS	219,166
48.	LOUISIANA STATE	967,176	102.	WATERLOO	1,045,015
49.	MCGILL	780,800	103.	WAYNE STATE	
50.	MCMASTER		104.	WESTERN ONTARIO	1,200,000
51.	MANITOBA	322,000	105.	WISCONSIN	1,521,180
52.	MARYLAND		106.	YALE	985,000
53.	MASSACHUSETTS		107.	YORK	939,890
54.	MIT	385,743			

ARL Supplementary Statistics Questionnaire, 1988-89

Instructions

1. **Question I.** Include only items ready for use by library clients. Exclude, e.g., cataloging backlogs.

2. **Question I.1.** On line I.1(a) report the figure that you reported on line 5 of the regular ARL statistics questionnaire. On I.1(b) report the number of titles represented by the volumes reported on line 5 (or line I.1(a)). Various methods are available for estimating titles from a shelflist. See, e.g., the ANSI Z39.7-1983 Standard, p. 36.

3. **Question I.2.** On line I.2(a) report the figure that you reported on line 10 of the regular ARL statistics questionnaire. On I.2(b) report the number of titles represented by the units of microform reported on line 10 (or line I.2(a)). The figure for titles should include both monographic and serial titles. *Microform Research Collections: A Guide* (2d ed), edited by Suzanne Cates Dodson (Westport, CT: Meckler Publishing, c1984) lists the number of titles in many microform sets.

4. **Questions I.3.** Include both manuscripts and archives measured in linear feet. Note that a figure for *titles* of manuscripts/archives is not requested.

5. **Question I.4.A.** Include the numbers of units of two- and three-dimensional maps and globes. Include also satellite and aerial photographs and images. Note that a figure for *titles* is not requested.

6. **Question I.4.B.** Include the number of units of prints, pictures, photographs, postcards, slides, transparencies, film strips, and the like. Note that a figures for *titles* is not requested.

7. **Question I.4.C.** On I.4.C(a) include the number of units of audio cassettes, phonodiscs, audio compact discs, reel-to-reel tapes, and other sound recordings. On I.4.C(b) report the number of titles. Mozart's *Marriage of Figaro* on three compact discs, for example, is counted as three audio units and one title.

8. **Question I.4.D.** On I.4.D(a) include the number of units of motion pictures, video cassettes, video laser discs, and similar visual materials. On I.4.D(b) report the number of titles. *Dr. Zhivago* on two videocassettes, for example, is counted as two video units and one title.

9. **Question I.5.** On I.5(a) include the number of units of computer disks, computer reels, CD-ROM's, and similar machine-readable files comprising data or programs that are locally held as part of the library's collections available to library clients. On I.5(b) report the number of titles. *PsychLit* on two CD-ROM's is counted as two units and one title.

10. **Question II.1.** Report here local, state, provincial, federal, and international government documents that are not included on line 5 of the regular ARL statistics questionnaire and that are housed separately from the library's cataloged book and serial collections. Report documents in both number of items and linear feet. For guidance, in U.S. government documents 52 items or pieces are approximately equivalent, on the average, to 1 linear foot, which in turn is equivalent to approximately 10 bound volumes.

11. **Question II.2.** Report currently received documents serials that are **not** included on lines 7-9 of the regular ARL statistics questionnaire and that are housed separately from the library's cataloged current serials. For the definition of "serial" see instruction 10 of the regular ARL statistics questionnaire. For guidance, note that the annual Periodicals Supplement of the *Monthly Catalog of U.S. Government Publications* provides the number of periodicals (not serials) supplied to depository libraries.

12. **Question II.3.** Report the number of units of microfilm, microfiche, microprints, and microcards that are **not** included on line 10 of the regular ARL statistics questionnaire and that are housed in a separate government documents collection.

13. **Question III.** Report the number of bibliographic records in your local online catalog representing materials held on your campus. Exclude records for remote materials, such as materials at the Center for Research Libraries or in a storage center not on campus. In general, it is assumed that one record represents one title. If periodical index records, such as the Wilson indexes or MEDLINE, are included in the online catalog exclude these records from the count.

14. In general, the data categories in this supplementary questionnaire correspond to categories in the U.S. Department of Education IPEDS survey of libraries. The following table shows the corresponding lines in this questionnaire and the 1988 IPEDS form:

Supplementary Questionnaire	IPEDS
I.1(a)	25
I.1(b)	26
I.2(a)	(32)
I.2(b)	29-30
I.3(a)	33
I.4.A(a)	34
I.4.B(a)	35
I.4.C(a)	--
I.4.C(b)	36
I.4.D(a)	--
I.4.D(b)	37-38
I.5(a)	--
I.5(b)	39
II.1(a)	--
II.1(b)	--
II.2	--
II.3	--
III	--

15. Please return the completed Supplementary Statistics Questionnaire to the ARL Office with the regular ARL Statistics Questionnaire by **October 6, 1989**. However, if you cannot complete the Supplementary Questionnaire by that date, **please do not delay submission of the regular ARL Statistics Questionnaire**. The Supplementary Statistics Questionnaire may be returned later in the fall if necessary.

ARL Supplementary Statistics Questionnaire 1988-89

Please do not leave any blank lines. If the appropriate answer is zero or none, use "0". If an exact figure is unavailable, use "U/A." If a question is not applicable to your library, use "N/A."

Reporting Institution _____ Date Returned to ARL _____

Questionnaire Completed by (Name) _____

Position _____ Telephone _____

Contact Person (if different) _____

Position _____ Telephone _____

I. PHYSICAL UNITS AND TITLES OF HOLDINGS *(See instructions 1-9)*

(Exclude separately housed government documents not reported in regular ARL statistics questionnaire; these items should be reported in question II.)

	(a) Physical Units	(b) Titles
1. **Volumes** (line 5 of ARL statistics questionnaire)		
2. **Microforms** (line 10 of ARL statistics questionnaire)		
3. **Manuscripts and archives** (linear feet)		
4. **Audiovisual** (units)		
A. **Cartographic**		
B. **Graphic**		
C. **Audio**		
D. **Video and film**		
5. **Computer files** (units)		

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II. SEPARATELY HOUSED GOVERNMENT DOCUMENTS NOT REPORTED IN THE *ARL STATISTICS*
(See instructions 10-12)

1. Separately housed documents not reported on line 5 of ARL statistics questionnaire

   A. Number of items _____

   B. Linear feet _____

2. Currently received serials not reported on lines 7-9 of ARL statistics questionnaire _____

3. Microform units not reported on line 10 of ARL statistics questionnaire _____

III. NUMBER OF RECORDS OF LOCALLY HELD MATERIALS IN LOCAL ONLINE CATALOG
(See instruction 13)

_____

IV. COMMENTS

_____

_____

_____

_____

_____

_____

Please return this questionnaire to the ARL Office by October 6, 1989.

APPENDIX C

RESEARCH LIBRARIES IN A GLOBAL CONTEXT

Exploratory Paper

Prepared by ARL Staff for the ARL Board of Directors and the ARL Committee on Collection Development

December 1989

second draft, April 1990

RESEARCH LIBRARIES IN A GLOBAL CONTEXT

prepared by ARL Staff
December 1989
second draft, April 1990

Research libraries are the hub of a nation's intellectual enterprise. Over the last decade, North American research libraries have faced many pressures: expanding scholarly disciplines and the growth of interdisciplinary studies; the demands of scholars for new and expanded services; the increase in the number of formats collected; the need to preserve the collections from the ravages of decay; the move to online catalogs; and budget constraints that affect all library efforts. These challenges will continue. At the same time, new external factors are exerting increasing pressure on libraries and their parent institutions as they seek to serve scholars' needs. These include:

- **Transformations in Eastern Europe and around the world.** During the fall of 1989, headlines brought continuous news of the changes in Eastern Europe. The pace, as well as breadth, of change was surprising. The changes—political, social and economic—are linked and will impact the entire world. Substantial changes are also occurring along the Pacific Rim and in Latin America.

- **Impact of the global marketplace.** The North American business community has found its marketplace as well as its competition to be global. The need for personnel well-trained in the cultures and languages of the world is increasing. A recent editorial in *The Washington Post* states, "Just about every country [the U.S. competes] with has met the challenge of imparting second- and third-language fluency to a substantial proportion of its citizens."[1] The fear that the United States and Canada will no longer be competitive in the world marketplace is real.

- **Expanding boundaries of scientific and technical research.** Scientific and technological efforts are increasingly collaborative on an international basis. Developments occur in laboratories around the world and scientists in the U.S. and Canada depend on awareness of these developments for progress in their own research. In addition, the results of research are increasingly being published outside North America.

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[1] "Foreign language distractions," editorial, *The Washington Post*, December 15, 1989, p. A24.

Research libraries—faced with fulfilling the information needs of a world undergoing dramatic change, a business community participating in a global marketplace, and a research community working across international boundaries—have responded by turning to their collections and their supporting services. However, this may no longer be adequate. The 1980s brought many changes: increased book production worldwide; the addition of expensive electronic materials to traditional print and microform resources; increases in prices—especially for foreign serials; and inflation and weakened U.S. and Canadian dollars. All of these factors contributed to a dramatic decline in the acquisitions of foreign materials. As foreign materials have become increasingly important, libraries' ability to acquire them has eroded.

Reductions in the acquisition of foreign language materials and foreign imprints began in the 1970s. Major contributing factors have included the demise of government and cooperative projects for foreign acquisitions, the impact of inflation and devaluation of Canadian and U.S. dollars, the difficulty of finding staff trained in foreign languages, and an undercurrent of an English-only attitude among library users. The recent escalation of serials prices and the resulting cancellation of foreign journals are only the latest manifestation of the problem.

Faced with the growing need for foreign materials, research libraries have also had to respond to costly demands for automation, preservation, and new services at a time when available resources are increasingly unable to support the full range of needs. Choices have been necessary and the acquisition of foreign material has suffered.

Each year research libraries in the aggregate are able to purchase a smaller portion of published foreign resources than the year before. This decline results in serious gaps in collections that pose a long-term threat to research and scholarship. The following findings highlight the fiscal problems and their impact:

- The costs of books and serials have risen more rapidly than other major categories of library expenditures during the last decade, and materials budgets have not kept pace. Data from the *ARL Statistics*, illustrated in Tables 1 and 2 (see pages 11 and 12), compare the median cost of monographs and serials with expenditures and number of volumes or titles purchased for the past three years.[2]

- Analysis of statistics collected by ARL over the past ten years shows an overall increase of 91% in its members' expenditures for monographs while ARL libraries actually added *fewer* volumes, about 96% of the number added ten years ago. At the same time, "The number of current serials is 13% higher than ten years ago, but this 13% increase in serials has been paid for with a 143% increase in the serials bill."[3]

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[2] Stubbs, Kendon, "Introduction," *ARL Statistics, 1987-88* (Washington, D.C.: ARL, 1989), p. 7.

[3] *Ibid*, p. 7-8.

- A recent study of 75 university libraries showed that between 1985 and 1988, the expenditures for library materials *increased* by 30%, while the number of volumes added to their collections *decreased* by 10%.[4]

- The *Report on ARL Serials Prices Project* documents that the portion of the serials universe held by ARL libraries is decreasing markedly.[5]

- Subscription costs for foreign serials have increased dramatically over the past five years, with the greatest increases occurring for serials published in Austria, Japan, The Netherlands, Switzerland, and West Germany.

For both the United States and Canada, the crisis facing research libraries reflects an information crisis. Coverage of the global publishing output by North American research libraries, once thought to be comprehensive, is diminishing at a time when research is becoming increasingly international. Four perspectives help in understanding this issue:

- changes in global research and publishing patterns;

- shifts in information needs;

- collecting patterns of U.S. research libraries; and

- cooperative collection development programs.

Changes in Global Research and Publishing Patterns

Statistics compiled by UNESCO document the growth in the number of titles published worldwide, from 715,500 titles in 1980 to 819,500 titles in 1986. The UNESCO statistics further document the diffusion of book production and the continued growth in production in Third World countries. While the number of titles published in developed countries increased by barely 4% between 1980 and 1986—from 570,000 to 593,000 titles—book production in Third World countries grew by more than 55%—from 145,000 to 226,000 titles—in the same period. The statistics also bring into sharp focus significant shifts in publishing among the top ten publishing countries in the world.[6] The comparison of world book production between 1980 and 1986 (see Table 3, page 13) shows that the U.S. share of world-wide publishing remained essentially constant. However, the 1980s saw the emergence of Japan, China, and Korea as important publishing centers. The Asian share of world book production increased from 18.8% in 1980 and 22.7% in 1986. A look at the distribution of book production among the five largest producers (see Table 4, page 14)

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[4] Cummings, Martin M., "Working Paper," CLR/NSF Conference on Communications for Support of Science and Engineering, October 30-31, 1989, p. 13. Unpublished document.

[5] Okerson, Ann. "Of making books there is no end," in *Report of the ARL Serials Prices Project* (Washington, D.C.: ARL, 1989).

[6] *Statistical Yearbook, 1988* (Paris: UNESCO, 1988).

shows the U.S. ranking third, behind the Soviet Union and West Germany.

(The tables on pages 13 and 14 capture the present status of world book production and the contributions of publishing outside of North America. It should be noted that the figures do not distinguish between research and non-research materials and include not only academic books, but all published titles.)

Analysis of the science and technology literature offers an additional perspective. *Science & Engineering Indicators–1987* allow a more detailed look at the distribution of publications in these fields. They highlight that the "U.S. lead in publishing and patents is diminishing. The United States has held a leading position in science and technology for many years. However, indicators of the output of new scientific knowledge, of inventive activity, and of the impact of science and technology on the economy suggest that the U.S. lead has diminished. The share of research articles in core journals written by U.S. scientists and engineers has fallen slightly from 38 percent in 1973 to 35 percent in 1982. The number of patent applications made abroad by U.S. citizens fell by about 50 percent between 1969 and 1982; during the same period, Japanese external patent applications grew by almost 55 percent."[7]

Available information provides illustrations of the growth of non-U.S. science and technology publications. For example, in the BIOSIS database, U.S. authors published 25.91% of the indexed source materials indexed in 1988, while Western European and Japanese authors published almost 40% of the papers. Another example is the steady growth of Japanese shares of publications. A recently published study in *Science* notes, "in the 1973 through 1984 time frame, the number of Japanese-authored papers increased by 53%. In contrast, the number of U.S.-authored papers remained almost unchanged."[8]

Shifts in Information Needs

One major trend of the 1980s has been the internationalization of information and research. Significant shifts include those occurring in foreign language studies and in the collaborative efforts of researchers. After the decline of foreign language studies in the 1970s, statistics from the National Center for Education Statistics show an upturn in the number of foreign languages doctorates and a rise in foreign language study. The availability of high speed computing and improved telecommunications has led to a dramatic increase in collaboration among researchers. Computer-literate scholars will increasingly conduct, advance, and share research through national and international electronic networks and databases in their respective fields.

As science and technology research and development increase in foreign countries, there will be corresponding growth in foreign scientific and technological publications.

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[7] *Science & Engineering Indicators–1987*, p. 2.

[8] Narin, Francis, and J. Davidson Frame, "The growth of Japanese science and technology," *Science* 245 (August 1989): 603.

European science and Japanese commercial technology are increasingly important to science and engineering in North America. This is vividly illustrated by the fact that between 1980 and 1984, references in articles by U.S. authors to articles by non-U.S. authors increased from 25% to 29%.[9] Such increases are expected to continue.

Europe includes five of the ten largest linguistic groups in the world and is responsible for almost 44% of world book production. The prospects for European competition increase as plans for a united Europe move forward. In 1992, the European Economic Community plans to eliminate all remaining trade barriers between the twelve member countries. A united Europe will create a potential market of 320 million consumers, considerably larger than U.S. or Japanese markets, and changes in Eastern Europe will enlarge that market. There is a close link between generation of research knowledge, generation of new technologies, and the size and health of an economy. Access to European scientific information will become increasingly important as European research and development is fueled by economic development.

In recent years, concern has increased over the rapid advances by Japan in science and technology. Federal governments, the private sector, and universities and research libraries have expanded efforts to monitor Japanese science and technology and to acquire the resulting research information. However, few North American scientists and engineers are fluent in Japanese, and research libraries have not maintained strong collections of Japanese scientific and technical journals.

Collecting Patterns of North American Research Libraries

Historically, 40% to 60% of materials in major research collections have been foreign imprints. While estimates of foreign acquisitions vary from library to library or country to country, data from the Library of Congress, Harvard University, and several other research libraries confirm that research libraries are acquiring a declining percentage of the world publishing output.[10] A look at Library of Congress acquisition statistics shows that acquisitions from non-U.S. nations average 20% to 25% of output. The most troublesome aspect of that review is the marked decline in number of titles acquired by purchase from major areas of the world over the past three years.[11] The Library of Congress is not alone in the severity of the reductions. Another example comes from Harrassowitz, the primary vendor for German materials, which reported a 20% reduction in titles exported to the U.S. over the past three years.

Clearly, Western European materials remain important. And, while these materials

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[9] *Science & Engineering Indicators–1987* (Washington, D.C.: National Science Board, 1987) p. 289.

[10] Jutta Reed-Scott conversation with William Sittig, Director, Collections Policy Office, Library of Congress, November 16, 1989.

[11] "Library of Congress receipts for 1986 and 1987," *Library of Congress Information Bulletin*, February 8, 1988, pp. 52-58, and "Library of Congress monograph receipts for 1987 and 1988, *Library of Congress Information Bulletin*, January 16, 1989, pp. 19-25.

are assumed to be widely available in U.S. and Canadian research libraries, the weakening of the U.S. and Canadian dollars and higher prices for European materials have made acquisitions reductions inevitable. Libraries are most aware of the weakened value of the dollar when renewing periodical subscriptions, but the loss of purchasing power also affects libraries' acquisitions of foreign monographic imprints. For example, the average price of a European title is almost $79.00 (U.S.).[12] This is nearly twice the average price of U.S. titles.[13]

The limited efforts by research libraries to increase coverage of Japanese scientific and technical literature contrasts with the intensive U.S. response to meet the expanded demand for Russian language materials following the Soviet launching of Sputnik. Greater recognition is needed of the problem of limited availability of Japanese scientific and technical literature and its impact on research capacity.

An assessment of North American collections of foreign research materials is difficult because data on titles added by country of origin, expenditures for non-U.S. and Canadian imprints, and size of holdings have simply not been available. However, collection assessments offer circumstantial evidence of the problem of foreign acquisitions. One example is the 1985 Research Libraries Group (RLG) sample study of geology collections among member libraries. The study showed "the single most statistically significant factor in the failure to acquire (or the decision not to acquire) to be language. While foreign language materials represent only 22% of the entire sample (85 of 392), they comprise 55% of all items not held (38 of 70). In other words, the geology participants did not hold 45% of all foreign language titles. Russian-language materials fared particularly poorly."[14] Another RLG study carried out by nine member libraries with historically strong German collections indicated that of a random sample of 557 German research titles published in 1982, 27% of the survey titles were not held by any of the participants.[15] While these two studies focus on particular subjects, the collection evaluation data in the RLG Conspectus On-line provides a composite picture of research collections and indicates serious weaknesses in several foreign language areas.

Several other studies point to deteriorating coverage of foreign materials. A 1984 ARL membership survey on foreign acquisitions revealed significant gaps in materials from Middle Eastern and Asian countries. There was also a general conclusion that coverage in North American libraries for foreign scientific and technical literature from non-European countries was particularly weak.

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[12] *Academic & Research Book Prices Report, 1988-89: Approval Program Management Report* (New York: Baker & Taylor, 1989) p. 3.

[13] Grannis, Chandler B., "Book title output and average prices: 1988 preliminary figures," *Bowker Annual Library and Book Trade Almanac*. 34th ed. (New York: Bowker, 1989) p. 452.

[14] Research Libraries Group, *Conoco Report*, April 4, 1987, p. 10. Unpublished document.

[15] *Ibid*, p. 7.

There is, however, an additional important consideration: an apparent trend toward collection homogeneity. As libraries reduce foreign acquisitions, there is an almost inevitable tendency to concentrate on acquiring only core titles. The long-term impact will be more overlap among collections and less coverage of the "universe" of foreign research materials. The danger is that collections will become even more limited and that areas outside the mainstream trade market will simply no longer be covered adequately by any library.

Cooperative Collection Development Programs

Over the years, research libraries have pursued a number of strategies to build comprehensive collections through cooperation in collection development. The establishment of the Farmington Plan after World War II was the most far-reaching effort to ensure that "one copy of every important foreign book" was available in the United States. The Farmington Plan exemplified the large-scale, decentralized system of specializations by voluntary agreements among American research libraries. By 1972, tensions between cooperative collection responsibilities and institutional priorities, the complexities of the subject allocations, the high costs of acquiring and processing materials, and the perceived inclusion of materials marginal to local interests all contributed to the decision to terminate the Farmington Plan. Among decentralized efforts to build cooperative acquisitions programs in area studies were the Latin American Cooperative Acquisitions Program (LACAP) which operated between 1959 and 1972, and the Public Law 480 program begun by the Library of Congress in the 1960s which is being phased out.

Research libraries have begun several ongoing coordinated programs. Among these is the National Program of Acquisitions and Cataloging at the Library of Congress, which supports acquisition and cataloging of research materials published throughout the world. The collecting programs of the Center for Research Libraries have enriched access to specialized foreign materials, especially to foreign newspapers, foreign dissertations, and foreign government publications. The Shared Resources Program of the Research Libraries Group is another important effort. Central to the RLG program is the assignment of primary collecting responsibility for certain categories of materials. Still another example is the Seminar on the Acquisition of Latin American Library Materials (SALALM), which has concentrated on improving support for and access to Latin American research resources. In addition to these highly visible cooperative efforts, many regional, state, and local cooperative arrangements have been carried out over the years.

The decline in foreign acquisitions has sparked concern among foundation officers and public policy-makers. For example, two important initiatives are the recent funding provided by the Henry Luce Foundation for support of eleven major Southeast Asian collections and the special funding by the Andrew W. Mellon Foundation for a cooperative program for Russian and East European acquisitions at Michigan and Indiana Universities. The U.S. Government has addressed foreign acquisitions to a modest extent, primarily through Titles II-C and VI of the Higher Education Act (HEA) and the Japanese Technical Literature Act. Title II-C, Strengthening Research Library Resources, provides some funding for acquisition of foreign materials, though more II-C funds have gone to support improving bibliographic access to foreign materials. II-C grants in this area have focused primarily on the Soviet Union and Eastern Europe, East and Southeast Asia, and Latin America. HEA

Title VI was originally part of the National Defense Education Act. The centers for area studies funded by Title VI have provided some support for acquisition of foreign materials, especially periodicals. The Japanese Technical Literature Act has provided $1-2 million annually for Japanese technical literature translations and indexing of such translations by the National Technical Information Service (NTIS).

All of these efforts, both past and ongoing, provide valuable experience in coordinated collection development and help to define the limitations. They underscore the fact that libraries have achieved significant progress through collective action, but they also bring into sharp focus the fact that current efforts are quite limited. While some areas of the world receive needed attention, many others are without cooperative programs. Many of the questions that past cooperative efforts tried to address remain, but technology provides a new framework and new opportunities to address the issues.

What is Needed

An inevitable conclusion is that the production of foreign information resources will expand and costs will increase. It is time to focus renewed attention on the problem and to design new strategies. Research libraries are an integral, dynamic part of the changing information environment. They are and must remain gateways to the broadest world of scholarly information, regardless of country of production, language, or format. ARL's interest in foreign acquisitions is longstanding and ARL and its Committee on Collection Development continue to pursue a variety of strategies and projects to strengthen research libraries' programs in this area.

The dimension and complexities of the foreign acquisitions problem call for serious consideration of several basic questions:

- What are the priorities for foreign imprint materials acquisitions by U.S. and Canadian research libraries as a group?
- What important gaps exist and what potentially unnecessary duplication could be reduced through a cooperative collection development plan?
- What is the level of both real and perceived need for foreign materials by researchers and scholars in various disciplines?
- What opportunities exist for expanded funding?
- How will changes in the information environment affect collection building efforts?
- What is the role of existing cooperative programs and what new capabilities are needed?

To address effectively the problems of foreign acquisitions and fulfill successfully their

role in North America's research enterprise, research libraries must address the following concerns.

1. **Expanding North American holdings and access to the world's information output.**

   Research libraries have an opportunity to build on achievements in existing cooperative collection development programs, past and present, and on the strengths and continuing commitment to major foreign acquisition programs at the local, regional, national, and even international level.

2. **Creating new systems of affordable, effective access to foreign materials.**

   One important avenue for investigation will be to seek ways for capitalizing on the opportunities provided by the emerging National Research and Education Network (NREN). The goal of the proposed network "is to enhance national competitiveness and productivity through a high-speed, high-quality network infrastructure."[16] The implementation of NREN would allow research libraries to provide scholars with access to materials via expanded network services.

3. **Rethinking research library roles and relationships in providing access to foreign materials, especially expensive foreign serials.**

   No individual library can expect to be comprehensive in its coverage of the world's knowledge. ARL libraries must recognize the importance of further cooperative activity and be pragmatic about the roles of research libraries in a global context. Further, ARL libraries must articulate these changing roles and relationships to their parent institutions, to gain both their understanding of the problem and their financial support.

4. **Expanding funding sources for acquiring foreign materials.**

   Financial considerations including the need to expand funding sources will play a fundamental role in shaping potential strategies. The Mellon and Luce foundation initiatives highlight the significant contribution of this sector to improving foreign acquisitions in research libraries. Clearly, governments have a vital role to play in addressing the problem of foreign acquisitions and should commit significantly greater resources to this problem.

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[16] *The National Research and Education Network: a Policy Paper.* (Princeton, N.J.: EDUCOM Networking and Telecommunications Task Force, 1987) p. 1.

5. **Resolving issues related to the processing and preservation of foreign materials.**

   The processing and preservation of foreign research materials present special challenges. Research libraries need to address these challenges as part of any foreign acquisitions program.

ARL Actions

A multifaceted response to the foreign acquisitions crisis is urgently needed. ARL must develop a strategy designed to ensure that research libraries meet present and future needs for foreign research resources. To that end, ARL, through its Board of Directors and the Committee on Collection Development, should assign a high priority and undertake activities to focus attention on this critical issue. Specific ARL actions would include:

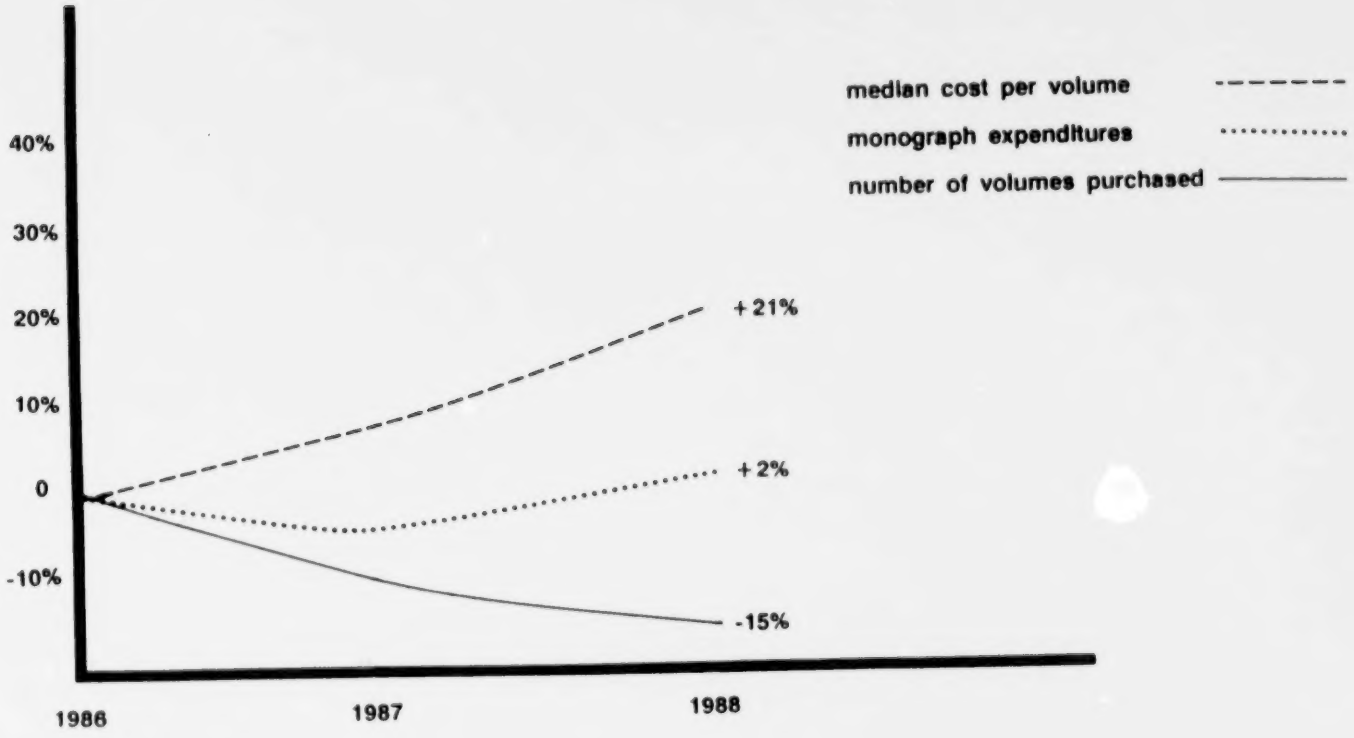
- collect and analyze data that define the magnitude of the problem, describe collecting patterns of ARL libraries, and identify significant gaps in coverage;
- investigate current and emerging world publishing patterns and the relationship of those patterns to the current environment in which research libraries function;
- develop a greater understanding of the needs of scholars in various disciplines for foreign research materials;
- bring together interested parties including scholars, researchers, business leaders, government officials, policy makers, university officials, foundation executives, and librarians to build coalitions that will address information needs for foreign materials;
- define the impact of diminished level of foreign acquisitions on U.S. and Canadian competitiveness;
- sponsor a Strategy Forum on Foreign Acquisitions at the October 1990 ARL Membership Meeting to afford full membership discussion and launch ARL initiatives in this area.
- involve individual libraries in developing new strategic approaches, balancing national needs with local responsibilities;
- engage library directors, collection development librarians, and others from the university community in discussions to affect change at the local level;

These efforts would provide the needed context and framework for understanding the magnitude of the problem, for evaluation of alternative solutions, and for shaping ARL initiatives.

Table 1

Trends in Monograph Purchases in ARL University Libraries

Percentage of Change, 1986-88

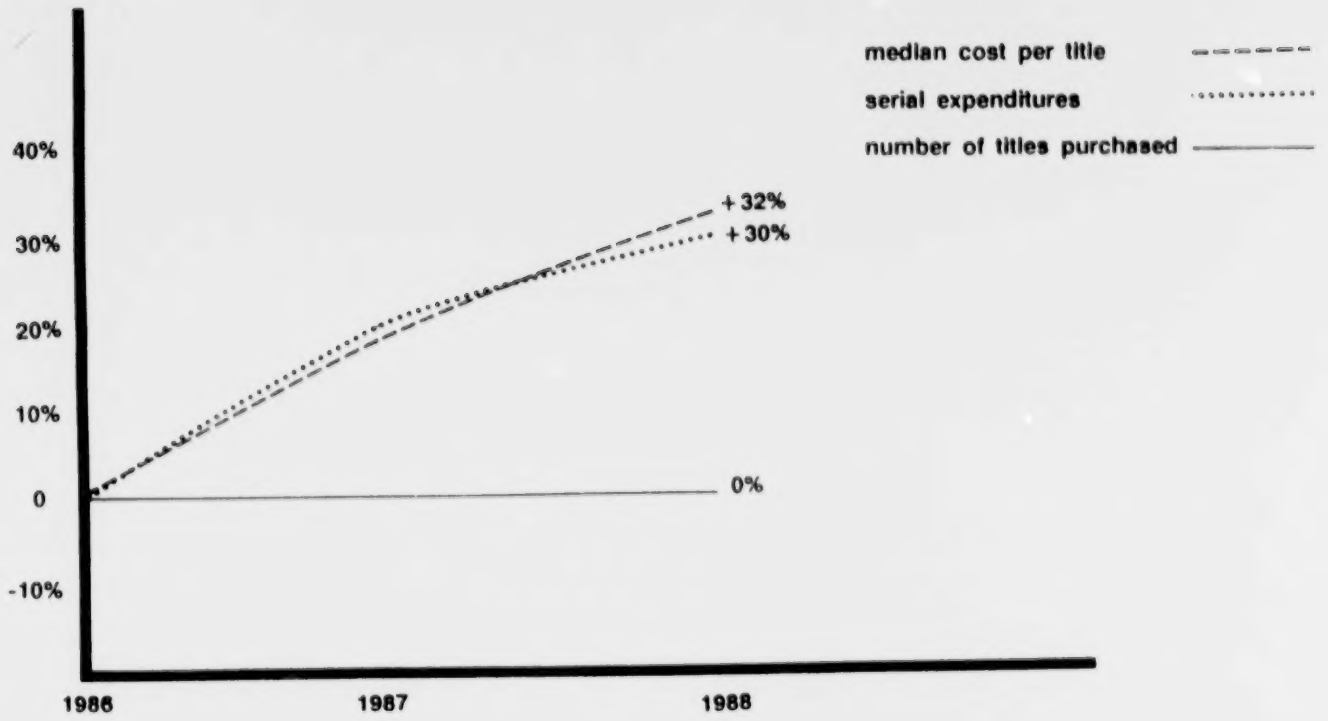


source: Association of Research Libraries, 1987-88 *ARL Statistics* (Washington, D.C.: ARL, 1989)

Table 2

Trends in Serial Purchases in ARL University Libraries

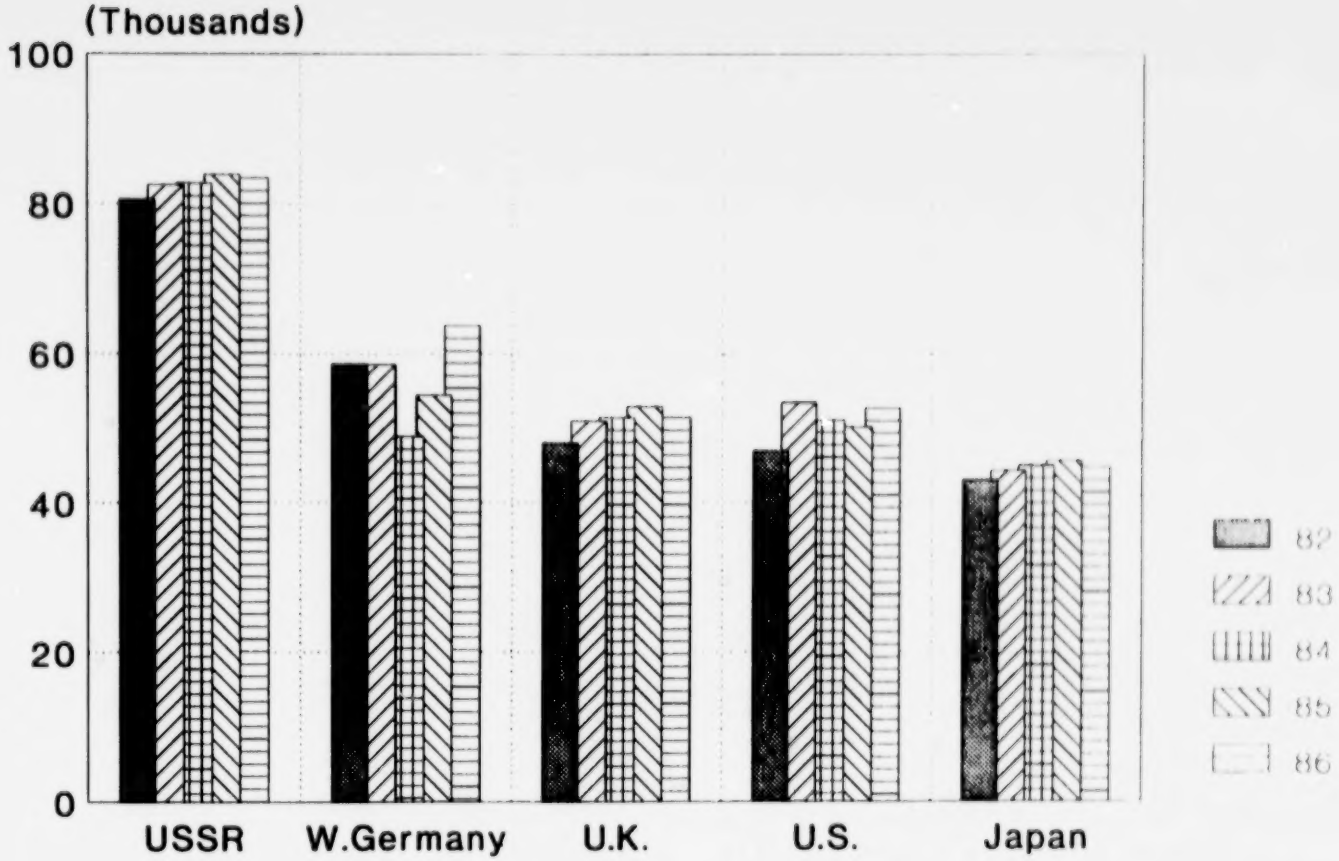
Percentage of Change, 1986-88



143

source: Association of Research Libraries, 1987-88 *ARL Statistics* (Washington, D.C.: ARL, 1989)

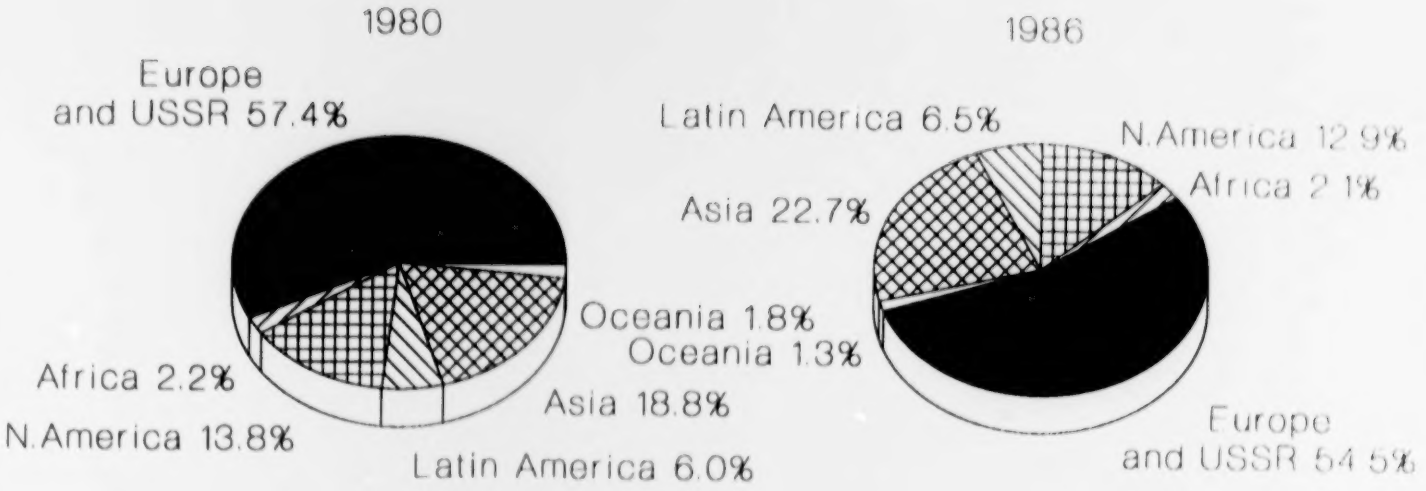
COMPARISON OF BOOK PRODUCTION
1982 - 1986



Source: UNESCO Statistical Yearbook

Table 4

DISTRIBUTION OF WORLD BOOK PRODUCTION



147

143

Source: UNESCO Statistical Yearbook 1988

APPENDIX D

ASSOCIATION OF RESEARCH LIBRARIES
FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 1989

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CMM

A PROFESSIONAL CORPORATION
CERTIFIED PUBLIC ACCOUNTANTS

To the Board of Directors
Association of Research Libraries
1527 New Hampshire Ave., N.W.
Washington, D.C. 20036

We have audited the accompanying balance sheets of Association of Research Libraries as of December 31, 1989 and 1988, and the related statements of income, fund balances, and cash flows for the years then ended. These financial statements are the responsibility of the Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Association of Research Libraries as of December 31, 1989 and 1988 and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Canto Metro Meyer & Co.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 17, 1990

JCM/kam

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ASSOCIATION OF RESEARCH LIBRARIES
BALANCE SHEETS
DECEMBER 31, 1989 AND 1988

A S S E T S

	GENERAL OPERATING FUND	OFFICE OF MANAGEMENT STUDIES	YEAR END DECEMBER 31, 1989	1988
Cash	$ 74,651	$ -0-	$ 74,651	$ 56,834
Investments, short-term at cost (note 2)	515,110	-0-	515,110	328,013
Accounts receivable	4,008	72,809	76,817	118,781
Due to (from) other funds	98,827	(98,827)	-0-	-0-
Prepaid expenses	8,080	-0-	8,080	18,645
Deposits	-0-	-0-	-0-	2,646
Furniture & equipment	138,236	66,024	204,260	191,259
Less: accumulated depreciation	(108,369)	(51,033)	(159,402)	(139,443)
Total	$ 730,543	$ (11,027)	$ 719,516	$ 576,735

LIABILITIES AND FUND BALANCES

Unapplied grant income (note 3)	$ 454,548	$ 2,472	$ 457,020	$ 347,135
Accounts payable/accrued expenses	66,465	-0-	66,465	34,615
Total liabilities	521,013	2,472	523,485	381,750
Fund balances	209,530	(13,499)	196,031	194,985
Total	$ 730,543	$ (11,027)	$ 719,516	$ 576,735

See auditor's report.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
STATEMENTS OF INCOME AND CHANGES IN FUND BALANCES
FOR THE PERIODS INDICATED

	CAPABILITIES			GRANTS/ SPECIAL PROGRAMS	
		YEAR ENDED DECEMBER 31,		YEARS ENDED DECEMBER 31,	
	BUDGET	1989	1988	1989	1988
Revenue					
Dues	$833,000	$832,590	$734,825	$ 1,300	$ 23,800
Interest	35,000	24,764	3,865	21,495	17,302
Publication	34,000	47,983	23,722	13,175	-0-
Consulting	-0-	-0-	-0-	82,208	69,312
Miscellaneous	-0-	14,637	-0-	-0-	-0-
Cost recovery	6,360	21,553	14,988	1,119	-0-
	908,360	941,527	777,400	119,297	110,414
Expenses (Schedules - pages 9-11)	908,200	858,202	768,121	145,224	117,794
	$ 160			$(25,927)	$ (7,380)
Excess revenues or (expenditures)		83,326	9,279		
		(25,927)	(7,380)		
Fund balance, beginning of year		152,130	150,231		
Fund balance, end of year		$209,530	$152,130		

See auditor's report.

ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF CASH FLOWS
FOR THE PERIODS INDICATED

	YEAR ENDED 12/31/89	YEAR ENDED 12/31/88
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	$ 1,045	$ 1,102
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	19,959	26,013
Changes in assets and liabilities:		
(Increase) in accounts receivable	41,964	(26,788)
(Increase) in prepaid expenses	10,565	(10,226)
(Decrease) in dues collected in advance	-0-	(6,584)
(Decrease) in accounts payable and accrued expenses	31,850	(92,163)
(Increase) in deposits	2,646	(130)
(Decrease) in lease obligation	-0-	(1,109)
(Decrease) in unapplied grant income	109,885	(18,061)
Total adjustments	216,869	129,048
Net cash provided by operating activities	217,914	(127,946)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Capital expenditures	(13,000)	(16,453)
Net cash used in investing activities	(13,000)	(16,453)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	204,914	(144,399)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	384,847	529,246
CASH AND CASH EQUIVALENTS AT END OF YEAR	$ 589,761	$ 384,847

See auditor's report.

ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1989

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

The Association of Research Libraries is a non-profit education organization comprised of the major research libraries in the United States and Canada. The purpose of the Association is to initiate and develop plans for strengthening research library resources and services in support of higher education and research. As part of its activities, the Association also operates the Office of Management Studies.

The Office of Management Studies was established by the Association in 1970. The Office conducts research into organizational problems of research libraries, develops new management techniques, and offers information services and training.

Basis of accounting

The Association's financial statements are reported on the accrual basis, with the exception of the office of Management Services' publication program, which is reported on the cash basis.

Furniture, equipment and depreciation

Furniture and equipment are recorded at cost. Depreciation of furniture and equipment is provided on the straight-line method over the estimated useful lives of the assets, which is generally five to ten years.

Income taxes

The Association is exempted from income taxes under Internal Revenue Code Section 501(c)(3) and applicable District of Columbia law.

Retirement plan

The Association has a retirement plan that covers substantially all full-time employees. Contributions to the plan are based on a percentage of salary for enrolled staff members. Total amounts paid in by the Association were $67,201 and $64,121 for 1989 and 1988, respectively.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1989

Leases

The Association leases its office space under an operating lease that expires on December 31, 1991. Total rent and storage charges for the operating lease were $88,694 for 1989 and $88,710 for 1988.

Accounts Receivable

Using his discretion, the president of the Association of Research Libraries authorized the use of the Program Reserve Fund to eliminate the outstanding account receivable arising from the dissolution of the Center for Chinese Research Materials in 1985.

2. MARKETABLE SECURITIES

Marketable securities are recorded at cost. Securities owned at December 31, 1989, consisted of the following:

	COST	MARKET
Dean Witter US Government Money Market Trust	$ 159,004	$ 159,004
Dean Witter US Government Securities Trust - 25,557.601 share	270,869	243,047
Easy Treasury Receipts Coupon Bonds, maturing Aug. 15, 1990	85,237	88,436
	$ 515,110	$ 490,487

3. UNAPPLIED GRANT INCOME

Income received in advance and unearned as of December 31, 1989, is classified as follows:

NRMM - NEH	$ 24,687
NRMM - Mellon	300,100
Statistics - Mellon	41,515
Preservation Planning - NEH	2,472
NRMM Default - Performance Bond	88,246
	$ 457,020

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SUPPLEMENTARY INFORMATION

Our examinations of the financial statements included in the preceding section of this report were directed to an expression of our opinion on those financial statements taken as a whole. The supplementary information included on pages 9 through 14 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 17, 1990

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT EXPENDITURE
FOR THE YEAR ENDED DECEMBER 31, 1989

	CAPABILITY							
	ADMIN-ISTRATION	STATISTICS	COMMUN-ICATION	MEMBERSHIP MEETINGS	GOVERNANCE	MANAGEMENT SERVICES	FEDERAL RELATIONS & INFO POLICY	RELATIONS-SCHOLARLY COMMUNITY
Employee costs	$ 138,984	$ 26,722	$ 37,266	$ 34,609	$ 36,768	$ 3,271	$ 64,243	$ 22,825
Professional services	25,265	1,800	2,125	2,454	-0-	-0-	236	-0-
Travel	19,907	1,366	1,723	32,795	26,231	869	5,981	5,588
Communication	19,372	2,319	2,122	2,631	1,613	277	2,899	126
Program support	16,085	7,275	21,195	2,910	-0-	6	766	769
Office operation	83,867	2,072	-0-	2,903	640	-0-	2,192	-0-
Miscellaneous	11,499	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Corporate membership	3,043	271	-0-	-0-	-0-	-0-	-0-	5,595
Insurance	3,791	-0-	-0-	-0-	-0-	-0-	-0-	-0-
OMS support	-0-	-0-	-0-	-0-	-0-	127,000	-0-	-0-
Total expenses	$ 321,814	$ 41,825	$ 64,431	$ 78,301	$ 65,254	$ 131,423	$ 76,318	$ 34,903
Budget	$ 352,200	$ 42,000	$ 60,000	$ 66,000	$ 54,000	$ 138,000	$ 70,000	$ 39,000

See auditor's report.

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ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND (CONTINUED)
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURE
FOR THE YEAR ENDED DECEMBER 31, 1989

	CAPABILITY						
	ACCESS OF SCHOLARLY INFORMATION PROJECTS	PRE-SERVATION COMMITTEE	BIBLIO-GRAPHIC CONTROL COMMITTEE	COLLECTION INT'L COMMITTEE	INT'L RELATIONS	TOTAL	YEAR ENDED DECEMBER 31 1988
OBJECT OF EXPENDITURE							
Employee costs	$ 7,391	$ 10,179	$ 4,270	$ 6,563	$ 5,017	$ 398,109	$ 332,686
Professional services	-0-	-0-	-0-	-0-	-0-	31,880	36,890
Travel	2,689	933	116	55	4,367	102,621	95,878
Communication	347	798	195	14	68	32,781	36,014
Program support	15	25	20	3	2	49,071	24,735
Office operation	468	286	113	-0-	-0-	92,540	93,742
Miscellaneous	-0-	-0-	-0-	-0-	-0-	3,499	1,827
Corporate membership	-0-	-0-	-0-	-0-	-0-	8,909	9,952
Insurance	-0-	-0-	-0-	-0-	-0-	11,791	14,898
OMS support	-0-	-0-	-0-	-0-	-0-	127,000	121,500
Total expenses	$ 10,910	$ 12,221	$ 4,713	$ 6,635	$ 9,454	$ 858,202	$ 768,121
Budget	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 77,000	$ 908,200	

See auditor's report.

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
RECONCILIATION OF EXPENSES BY GRANT OR SPECIAL PROGRAM AND BY OBJECT OF EXPENDITURES
FOR THE YEAR ENDED DECEMBER 31, 1989

	GRANT / SPECIAL PROGRAM						YEAR ENDED DECEMBER 31
	NRMM	NRMM MELLON	STATISTICS MELLON	SERIAL PRICE PROJECT	HEA-II-C	ALKALINE PAPER PROJECT	TOTAL	1988
OBJECT OF EXPENDITURE								
Employee costs	$ -0-	$ 17,153	$ 7,719	$ 18,508	$ 873	$ 799	$ 45,052	$ 48,219
Professional services	48,145	-0-	12,960	13,923	-0-	-0-	75,028	55,005
Travel	110	3,780	3,623	3,488	3,250	-0-	14,251	4,716
Communication	12	516	6	1,555	135	954	3,178	1,755
Program support	-0-	-0-	-0-	6,775	-0-	100	6,875	8,048
Office operation	3	46	30	617	-0-	144	840	51
	$ 48,270	$ 21,495	$ 24,338	$ 44,866	$ 4,258	$ 1,997	$ 145,224	$ 117,794

See auditor's report.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1989

	CAPABILITY					
	RESEARCH & DEVELOPMENT	ACADEMIC LIBRARY PROGRAM	SPEC	TRAINING MSI	OPERATIONS GRANT MANAGEMENT	VIDEO TRAINING
OBJECT OF EXPENDITURES						
Employee costs	$ 6,530	$ 39,259	$ 40,048	$ 47,663	$ 106,804	$ -0-
Professional services	-0-	-0-	7,538	18,317	4,780	-0-
Travel	3,154	7,581	722	56,188	7,844	-0-
Communications	686	3,038	4,610	14,840	6,039	177
Program support	62	189	36,512	36,782	6,367	3,729
Office operation	-0-	756	2,289	8,576	52,191	117
Corporate membership	-0-	-0-	-0-	185	268	-0-
Total expenses	$ 10,432	$ 50,823	$ 91,719	$ 182,551	$ 184,293	$ 4,022

See auditor's report.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
RECONCILIATION OF EXPENSES BY CAPABILITY AND BY OBJECT OF EXPENDITURES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1989

	AUSTRALIAN TRAINING	TOTAL	BUDGET	YEAR ENDED DECEMBER 31 1988
OBJECT OF EXPENDITURES				
Employee costs	$ -0-	$ 240,304	$ 231,200	$ 157,686
Professional services	-0-	30,635	27,300	26,615
Travel	293	75,782	86,500	89,537
Communications	1,215	30,605	29,100	32,426
Program support	2,058	85,699	44,600	47,537
Office operation	-0-	63,928	88,300	108,326
Corporate membership	-0-	453	1,000	478
Insurance	-0-	-0-	-0-	150
Total expenses	$ 3,566	$ 527,406	$ 508,000	$ 462,755

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
RECONCILIATION OF EXPENSES BY GRANT OR SPECIAL PROGRAM BY OBJECT OF EXPENDITURE
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1989

	GRANT OR SPECIAL PROGRAM					
OBJECT OF EXPENDITURE	NCIP PROJECT	CANADIAN PROJECT	PRESERVATION PLANNING PRGM	NEH PRESERVATION CONTRIBUTION	TOTAL	YEAR ENDED DECEMBER 31 1988
Employee costs	$ 8,377	$ 2,364	$ 12,572	$ 8,930	$ 32,242	$ 85,788
Professional services	-0-	-0-	6,000	-0-	6,000	2,508
Travel	978	2,972	15,582	-0-	19,532	24,171
Communication	2,214	79	520	22	2,834	3,155
Program support	5,164	-0-	1,032	-0-	6,196	3,488
Office operation	578	12	60	17	667	691
Total expenses	$ 17,311	$ 5,427	$ 35,766	$ 8,969	$ 67,472	$ 119,800

See auditor's report.

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APPENDIX E

116th ARL MEMBERSHIP MEETING ATTENDANCE LIST

Member Institutions

University of Alabama	Charles B. Osburn
University of Alberta	John Teskey
University of Arizona	Sara Heitshu
Arizona State University	Donald E. Riggs
Boston Public Library	Arthur Curley
Boston University	John Laucus
Brigham Young University	Sterling J. Albrecht
University of British Columia	(*not represented*)
Brown University	Merrily Taylor
University of California, Berkeley	Joseph A. Rosenthal
University of California, Davis	Marilyn J. Sharrow
University of California, Irvine	Calvin J. Boyer
University of California, Los Angeles	Gloria Werner
University of California, Riverside	James C. Thompson
University of California, San Diego	Dorothy Gregor
University of California, Santa Barbara	Joseph A. Boissé
Canada Inst. for Sci. & Tech. Information	Elmer V. Smith
Case Western Reserve University	Susan Coté
Center for Research Libraries	Donald B. Simpson
University of Chicago	Martin Runkle
University of Cincinnati	Linda B. Cain
University of Colorado	James F. Williams, II
Colorado State University	Joan Chambers
Columbia University	Elaine F. Sloan
University of Connecticut	Norman D. Stevens
Cornell University	(*not represented*)
Dartmouth College	(*not represented*)
University of Delaware	Susan Brynteson
Duke University	John Lubans
Emory University	Paul Cousins
University of Florida	Dale Canelas
Florida State University	Charles E. Miller
Georgetown University	Joseph E. Jeffs
University of Georgia	Bonnie Clemens
University of Guelph	John Black
Harvard University	Dale Flecker
University of Hawaii	John R. Haak
University of Houston	Robin Downes
Howard University	Juanita Portis
University of Illinois at Chicago	William G. Jones
University of Illinois at Urbana	David Bishop
Indiana University	James G. Neal
University of Iowa	Sheila D. Creth
Iowa State University	Nancy L. Eaton
Johns Hopkins University	Scott Bennett
University of Kansas	George Gibbs
University of Kentucky	Gail Kennedy

Kent State University	Don Tolliver
Laval University	Claude Bonnelly
Library of Congress	Ellen Hahn
Linda Hall Library	Wilma Hartman
Louisiana State University	Sharon Hogan
McGill University	Eric Ormsby
McMaster University	Graham R. Hill
University of Manitoba	Earl Ferguson
University of Maryland	*(not represented)*
University of Massachusetts	*(not represented)*
Massachusetts Institute of Technology	Jay K. Lucker
University of Miami	Frank Rodgers
University of Michigan	Robert Warner
Michigan State University	Hiram L. Davis
University of Minnesota	Thomas W. Shaughnessy
University of Missouri	Martha Bowman
National Agricultural Library	Sarah Thomas
National Library of Canada	Marianne Scott
National Library of Medicine	*(not represented)*
University of Nebraska - Lincoln	Kent Hendrickson
The Newberry Library	*(not represented)*
University of New Mexico	Robert L. Migneault
New York Public Library	Paul Fasana
New York State Library	Jerome Yavarkovsky
New York University	Carlton C. Rochell
University of North Carolina	James F. Govan
North Carolina State University	Susan K. Nutter
Northwestern University	Adele Combs
University of Notre Dame	Maureen Gleason
Ohio State University	William J. Studer
University of Oklahoma	Sul H. Lee
Oklahoma State University	Edward R. Johnson
University of Oregon	George W. Shipman
University of Pennsylvania	Patricia Renfro
Pennsylvania State University	Nancy Cline
University of Pittsburgh	William Roselle
Princeton University	Donald Koepp
Purdue University	Emily R. Mobley
Queen's University	*(not represented)*
Rice University	Jennifer Cargill
University of Rochester	James F. Wyatt
Rutgers University	Joanne R. Euster
University of Sasketchewan	Paul Wiens
Smithsonian Institution Libraries	Barbara J. Smith
University of South Carolina	Arthur P. Young
University of Southern California	Nelson Gilman
Southern Illinois University	Kenneth G. Peterson
Stanford University	*(not represented)*
State University of New York at Albany	Meredith Butler
State University of New York at Buffalo	Barbara von Wahlde
State University of New York at Stony Brook	John B. Smith
Syracuse University	David H. Stam
Temple University	Fran Hopkins
University of Tennessee	Paula T. Kaufman
University of Texas	Harold W. Billings
Texas A & M University	Irene B. Hoadley
University of Toronto	Carole Moore

Tulane University	Philip E. Leinbach
University of Utah	Roger K. Hanson
Vanderbilt University	Malcolm Getz
Virginia Polytechnic Inst. and State Univ.	Paul Gherman
University of Virginia	*(not represented)*
University of Washington	Charles E. Chamberlin
Washington State University	Donna McCool
Washington University	Shirley K. Baker
University of Waterloo	Murray C. Shepherd
Wayne State University	Peter Spyers-Duran
University of Western Ontario	Len Geddie
University of Wisconsin	*(not represented)*
Yale University	*(not represented)*
York University	Ellen Hoffmann

ARL and OMS Staff Members

Duane E. Webster	Executive Director
Prudence S. Adler	Federal Relations Officer
Gary S. Dikeos	Office Manager
Jeffrey Gardner	Director, Office of Research & Development
Susan Jurow	Director, Office of Management Services
Ann Okerson	Director, Office of Scientific and Academic Publishing
Paul E. Peters	Director, Coalition for Networked Information
Sarah M. Pritchard	Senior Program Officer
Jutta Reed-Scott	Program Officer for Preservation/Bibliographic Control
C. Brigid Welch	Program Officer for Information Services, OMS

Invited Guests

Henriette Avram	Library of Congress
Henry Barschall	University of Wisconsin - Madison
Thomas R. Buckman	The Foundation Center
Edward C. Carter, II	American Philosophical Society
Carol Cartwright	University of California, Davis *(Speaker)*
Gordon Davies	State Council for Higher Education for Virginia *(Speaker)*
William D'Antonio	American Sociological Association *(Speaker)*
GraceAnne DeCandido	Library Journal
Carol De Vita	Population Reference Bureau *(Speaker)*
Peter Durey	University of Auckland
Phyllis Franklin	Modern Language Association *(Speaker)*
Gordon Fretwell	University of Massachusetts
Anne Mathews	Department of Education
Malcolm McDonald	University of Alabama Press
Jan Merrill-Oldham	University of Connecticut
James Michalko	The Research Libraries Group, Inc.
William Moffett	Association of College and Research Libraries
William Sittig	Library of Congress
Maxine Sitts	Commission on Preservation and Access
Wayne Smith	OCLC, Inc.
John C. Vaughn	Association of American Universities
Tom Gauglan	American Libraries

NAME INDEX

Members

Albrecht, Sterling J.	Brigham Young University
Baker, Shirley K.	Washington University
Bennett, Scott	Johns Hopkins University
Billings, Harold W.	University of Texas
Bishop, David	University of Illinois at Urbana
Black, John	University of Guelph
Boissé, Joseph A.	University of California, Santa Barbara
Bonnelly, Claude	Laval University
Bowman, Martha	University of Missouri
Boyer, Calvin J.	University of California, Irvine
Brynteson, Susan	University of Delaware
Butler, Meredith	State University of New York at Albany
Cain, Linda B.	University of Cincinnati
Canelas, Dale	University of Florida
Cargill, Jennifer	Rice University
Chamberlin, Charles E.	University of Washington
Chambers, Joan	Colorado State University
Clemens, Bonnie	University of Georgia
Cline, Nancy	Pennsylvania State University
Combs, Adele	Northwestern University
Coté, Susan	Case Western Reserve University
Cousins, Paul	Emory University
Creth, Sheila D.	University of Iowa
Curley, Arthur	Boston Public Library
Davis, Hiram L.	Michigan State University
Downes, Robin	University of Houston
Eaton, Nancy L.	Iowa State University
Euster, Joanne R.	Rutgers University
Fasana, Paul	New York Public Library
Ferguson, Earl	University of Manitoba
Flecker, Dale	Harvard University
Geddie, Len	University of Western Ontario
Getz, Malcolm	Vanderbilt University
Gherman, Paul	Virginia Polytechnic Inst. and State Univ.
Gibbs, George	University of Kansas
Gilman, Nelson	University of Southern California
Gleason, Maureen	University of Notre Dame
Govan, James F.	University of North Carolina
Gregor, Dorothy	University of California, San Diego
Haak, John R.	University of Hawaii
Hahn, Ellen	Library of Congress
Hanson, Roger K.	University of Utah
Hartman, Wilma	Linda Hall Library
Heitshu, Sara	University of Arizona
Hendrickson, Kent	University of Nebraska - Lincoln
Hill, Graham R.	McMaster University
Hoadley, Irene B.	Texas A & M University
Hoffmann, Ellen	York University
Hogan, Sharon	Louisiana State University
Hopkins, Fran	Temple University
Jeffs, Joseph E.	Georgetown University

Johnson, Edward R.	Oklahoma State University
Jones, William G.	University of Illinois at Chicago
Kaufman, Paula T.	University of Tennessee
Kennedy, Gail	University of Kentucky
Koepp, Donald	Princeton University
Laucus, John	Boston University
Lee, Sul H.	University of Oklahoma
Leinbach, Philip E.	Tulane University
Lubans, John	Duke University
Lucker, Jay K.	Massachusetts Institute of Technology
McCool, Donna	Washington State University
Migneault, Robert L.	University of New Mexico
Miller, Charles E.	Florida State University
Mobley, Emily R.	Purdue University
Moore, Carole	University of Toronto
Neal, James G.	Indiana University
Nutter, Susan K.	North Carolina State University
Ormsby, Eric	McGill University
Osburn, Charles B.	University of Alabama
Peterson, Kenneth G.	Southern Illinois University
Portis, Juanita	Howard University
Renfro, Patricia	University of Pennsylvania
Riggs, Donald E.	Arizona State University
Rochell, Carlton C.	New York University
Rodgers, Frank	University of Miami
Roselle, William	University of Pittsburgh
Rosenthal, Joseph A.	University of California, Berkeley
Runkle, Martin	University of Chicago
Scott, Marianne	National Library of Canada
Sharrow, Marilyn J.	University of California, Davis
Shaughnessy, Thomas W.	University of Minnesota
Shepherd, Murray C.	University of Waterloo
Shipman, George W. S	University of Oregon
Simpson, Donald B.	Center for Research Libraries
Sloan, Elaine F.	Columbia University
Smith, Barbara J.	Smithsonian Institution Libraries
Smith, Elmer V.	Canada Inst. for Sci. & Tech. Information
Smith, John B.	State University of New York at Stony Brook
Spyers-Duran, Peter	Wayne State University
Stam, David H.	Syracuse University
Stevens, Norman D.	University of Connecticut
Studer, William J.	Ohio State University
Taylor, Merrily	Brown University
Teskey, John	University of Alberta
Thomas, Sarah	National Agricultural Library
Thompson, James C.	University of California, Riverside
Tolliver, Don	Kent State University
von Wahlde, Barbara	State University of New York at Buffalo
Warner, Robert	University of Michigan
Werner, Gloria	University of California, Los Angeles
Wiens, Paul	University of Sasketchewan
Williams, James F., II	University of Colorado
Wyatt, James F.	University of Rochester
Yavarkovsky, Jerome	New York State Library
Young, Arthur P.	University of South Carolina

Staff

Adler, Prudence S.	Federal Relations Officer
Dikeos, Gary S.	Office Manager
Gardner, Jeffrey	Director, Office of Research & Development
Jurow, Susan	Director, Office of Management Services
Okerson, Ann	Director, Office of Scientific and Academic Publishing
Peters, Paul E.	Director, Coalition for Networked Information
Pritchard, Sarah M.	Senior Program Officer
Reed-Scott, Jutta	Program Officer for Preservation/BibliographicControl
Webster, Duane E.	Executive Director
Welch, C. Brigid	Program Officer for Information Services, OMS

Guests

Avram, Henriette	Library of Congress
Barschall, Henry	University of Wisconsin - Madison
Buckman, Thomas R.	The Foundation Center
Carter, Edward C., II	American Philosophical Society
Cartwright, Carol	University of California, Davis *(Speaker)*
D'Antonio, William	American Sociological Association *(Speaker)*
Davies, Gordon	State Council for Higher Education for Virginia*(Speaker)*
De Vita, Carol	Population Reference Bureau *(Speaker)*
DeCandido, GraceAnne	Library Journal
Durey, Peter	University of Auckland
Franklin, Phyllis	Modern Language Association *(Speaker)*
Fretwell, Gordon	University of Massachusetts
Gauglan, Tom	American Libraries
Mathews, Anne	Department of Education
McDonald, Malcolm	University of Alabama Press
Merrill-Oldham, Jan	University of Connecticut
Michalko, James	The Research Libraries Group, Inc.
Moffett, William	Association of College and Research Libraries
Sittig, William	Library of Congress
Sitts, Maxine	Commission on Preservation and Access
Smith, Wayne	OCLC, Inc.
Vaughn, John C.	Association of American Universities

APPENDIX F

OFFICERS, BOARD OF DIRECTORS, COMMITTEES, AND TASK FORCES

ARL Officers and Board for 1989-90

Martin Runkle	President
Marilyn J. Sharrow	Vice President & President Elect
Charles E. Miller	Past President
Harold W. Billings	(Oct. 1989 - Oct. 1992)
Arthur Curley	(Oct. 1989 - Oct. 1992)
D. Kaye Gapen	(Oct. 1987 - Oct. 1990)
Ellen Hoffmann	(Oct. 1988 - Oct. 1991)
Susan K. Nutter	(Oct. 1989 - Oct. 1992)
Charles B. Osburn	(Oct. 1988 - Oct. 1991)
Carlton C. Rochell	(Oct. 1987 - Oct. 1990)
Thomas W. Shaughnessy	(Oct. 1988 - Oct. 1991)

Standing Committees and Task Forces

(Committee terms are based on calendar year)

Committee on Government Policies
Joseph A. Boisse (1990-92)
Susan Brynteson (1989-91)
Paul Gherman (1988-90)
John R. Haak (1989-91)
Ellen Hoffman (1989-91)
Paula T. Kaufman (1990-92)
Louis E. Martin (1990-92)
Alain Seznec (1990-92)
Paul A. Willis (1989-91)
James F. Wyatt (1990-92)
Merrily E. Taylor (1989-91), Chair (1989-90)

Staff: Prue Adler

Committee on Collection Development
Harold W. Billings (1990-92)
Linda B. Cain (1989-91)
John Laucus (1989-91)
Paul H. Mosher (1989-91)
Charles B. Osburn (1989-90)
William Sittig, Library of Congress Liaison
Barbara J. Smith (1990-92)
James C. Thompson (1989-91)
Paul Wiens (1989-91)
Susan K. Nutter (1988-90), Chair (1989-90)

Staff: Jeffrey Gardner

Committee on Nominations
To be appointed
Marilyn J. Sharrow, Chair (1989-90)

Committee on Membership (ad hoc)
Appointed as needed
ARL Past President, Chair

Committee on the Management of Research Library Resources
John Black (1988-90)
Meredith Butler (1990-92)
Jerry D. Campbell (1989-91)
Sheila Creth (1988-90)
Joanne R. Euster (1989-91)
Arthur Curley (1989-91)
Edward R. Johnson (1990-92)
Donald Riggs (1990-92)
Thomas W. Shaughnessy (ex officio as Chair of Committee on ARL Statistics)
Jerome Yavarkovsky (1989-91)
Sul H. Lee, Chair (1989-90)

Staff: Susan Jurow

Committee on Preservation of Research Library Materials
Henriette Avram, Library of Congress Liaison
Scott Bennett (1990-92)
Donald W. Koepp (1988-90)
Jan Merrill-Oldham, Consultant (1990)
Joseph A. Rosenthal (1990-92)
George W. Shipman (1989-91)
Donald B. Simpson (1989-90)
David C. Weber (1989-91)
William J. Studer, Vice Chair (1989-90)
Carole Moore (1987-90), Chair (1989-90)

Staff: Jutta Reed-Scott

Committee on Bibliographic Control
Henriette Avram, Library of Congress Liaison
Shirley R. Baker (1990-92)
Calvin J. Boyer (1989-91)
Nancy L. Eaton (1990-92)
Paul Fasana (1988-90)
Jay K. Lucker (1988-90)
Carlton C. Rochell (1989-91)
Marianne Scott (1989-91)
Barbara von Wahlde (1989-91)
Dorothy Gregor (1987-90), Chair (1989-90)

Staff: Jutta Reed-Scott

Committee on ARL Statistics
Joan I. Gotwals (1989-91)
Roger K. Hanson (1990-92)
Kent Hendrickson (1989-91)
Graham R. Hill (1989-91)
Irene B. Hoadley (1990-92)
Gordon Fretwell, Consultant (1990)
Margaret A. Otto (1990-92)
Kendon Stubbs (Consultant)
Thomas Shaughnessy, Chair (1989-90)

Staff: Nicola Daval
Sarah Pritchard

Task Force on Telecommunications
John Black
D. Kaye Gapen
Malcolm Getz
Paul Gherman
James F. Williams II
Nancy Cline, Chair

Staff: Prue Adler

Task Force on Membership of Nonuniversity Libraries (1989)
Arthur Curley
Louis E. Martin
Philip Leinbach
Elaine F. Sloan, Chair

Staff: Nicola Daval

Work Group on Options for MARC Distribution Services Financial Strategies (1989-90)
Henriette Avram, Library of congress Liaison
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APPENDIX G

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